Module Descriptor

Title	Fundamentals of Environmental Science		
Session	2026/27	**Status**	Published
Code	BIOL08029	**SCQF Level**	8
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Health and Life Sciences**		
Module Co-ordinator	Morgan Hetherington		

Summary of Module

This module will provide an overview of the scope of Environmental Science on an interdisciplinary scale and will introduce the scientific processes that control and affect our environment.

Students will explore the broader picture of applied environmental science and sustainability on a regional and international scale by looking at the different attitudes, values and perspectives that impact environmental perspectives and practices.

Students will also explore and develop an understanding of the environmental pressures facing the globe today, e.g., climate change and environmental management. This will include looking at potential options of remediation and mitigation strategies. Through the eyes of multiple disciplines, such as the hard physical sciences and social/political sciences, students will critically evaluate responses to these issues and explore decision-making aspects at all levels of governance.

With a focus on the occurrence and impacts of pollutants as well as the analytical solutions to fully understand their emission and distribution. This module will deliver both the theory and practical skills to better understand environmental contamination, in soils, sediments and waters, and the science that underpins it.

By undertaking this module students will develop a range of 'I am UWS' Graduate Attributes.

Universal – being ethically minded, where you will understand ethical principles, awareness and appreciation of the values and beliefs of others in relation to your own actions.

Work Ready – Develop problem solving and communication skills, including an ability to adapt what you are communicating to a specific audience.

Successful – by being autonomous and driven, you will develop skills to work independently and use ambition as a motivational tool.

Module Delivery Method	On-Campus[1] ☒	Hybrid[2] ☐	Online[3] ☐	Work -Based Learning[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☒ Lanarkshire ☐ London ☐ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

Terms for Module Delivery	Term 1	☐	Term 2	☒	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	Demonstrate the ability to undertake teamwork and collaboration in both field settings.
L2	Develop an understanding of the growing importance of applied environmental science and sustainability,including developing a logical ability in decision making processes.
L3	Describe major global and local environmental challenges such as climate change, pollution, deforestation, and resource depletion, along with their causes and impacts.
L4	Learn to assess and discuss key aspects of information relating to a range of environmental principals from multiple sources, e.g. scientific papers, internet resources, videos, newspapers etc.
L5	

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 8** Demonstrate a knowledge of the theoretical and practical principals that are important to environmental and sustainability sectors, including the capability and limitations of laboratory analysis.
Practice: Applied Knowledge and Understanding	**SCQF 8** Apply skills and understanding to investigate and debate issues associated with environmental sustainability and describe ways to minimize human impacts.

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

Generic Cognitive skills	**SCQF 8** Undertake critical analysis of information to draw conclusions from quantitative chemical and biological observations and data measurement.
Communication, ICT and Numeracy Skills	**SCQF 8** Use a range of IT skills to obtain and process data to enable the production of scientific written reports and laboratory exercises.
Autonomy, Accountability and Working with Others	**SCQF 8** Exercise autonomy through the designing of a work profile, managing time effectively and meeting deadlines for case studies and presentations. Work effectively independently and with others when carrying out practical laboratory exercises and group tasks.

Prerequisites	**Module Code**	**Module Title**
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours. This module covers a wide variety of theoretical, conceptual and practical areas, which require a range of knowledge and skills to be displayed and exercised. Delivery of its syllabus content therefore involves a diversity of teaching and assessment methods suitable to the learning outcomes of the module; these include lectures, structured tutorials (work closely integrated with the lecture material), laboratory exercises to develop practical skills and familiarisation with equipment and experimental techniques, completion and submission of written coursework making use of appropriate forms of IT and VLE, and independent study.	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	24
Tutorial / Synchronous Support Activity	18
Laboratory / Practical Demonstration / Workshop	6
Independent Study	152
n/a	
n/a	
TOTAL	200

Indicative Resources

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:
Basu, M. and Savarimuthu, X. (2017), Fundamentals of Environmental Studies. Cambridge University Press. G. Nelson Eby (2016). Principles of Environmental Geochemistry. Waveland Press
(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements
In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are attending and participating in all timetabled programme activities including on-campus and online teaching sessions, asynchronous online learning activities, placement, work-based elements, course-related learning resources, and complete assessments and submit these on time. **For the purposes of this module, academic engagement equates to the following:** Attendance on-campus at all classes.

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. In line with current legislation (Equality Act, 2010) and the UWS Equality, Diversity, and Human Rights Code, our modules are accessible and inclusive, with reasonable adjustment for different needs where appropriate. Module materials comply with university guidance on inclusive learning and teaching, and specialist assistive equipment, support provision and adjustment to assessment practice will be made in accordance with UWS policy and regulations. Where modules require practical and/or laboratory-based learning or assessment required to meet accrediting body requirements the University will make reasonable adjustment such as adjustable height benches or assistance of a 'buddy' or helper.
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Biological Sciences Health**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☒ **Yes** ☐ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Biology
Moderator	Stuart Woods
External Examiner	T Temple
Accreditation Details	

Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	2

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Class Test(40%)
Assessment 2
Fieldwork Assessment (40%)
Assessment 3
Presentation (30%)
(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Class test (written)	☐	☒	☐	☐	☐	30	2

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Clinical/ Fieldwork/ Practical skills assessment/ Debate/ Interview/ Viva voce/ Oral	☒	☐	☒	☒	☐	40	0

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Presentation	☐	☒	☒	☒	☐	30	0
Combined total for all components						100%	2 hours

Change Control

What	**When**	**Who**
Changed from 4 x class tests (worth 10%) each and a debate (worth 60%) to 1 x class test	28/01/2026	MH

(worth 30%), 1 x fieldwork assessment (worth 40%) and a presentation (worth 30%).		