Module Descriptor

Title	Humans and the Global Biosphere		
Session	2026/27	**Status**	Published
Code	BIOL08025	**SCQF Level**	8
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Health and Life Sciences**		
Module Co-ordinator	Phillip Cowie		

Summary of Module

The module begins with a consideration of the planetary system including the Biosphere, Hydrosphere, Geosphere and Atmosphere and how energy and materials cycle through these different systems on short-term and long-term scales. We explore the interactions of life with the physical environment through biogeochemical cycles. We then survey the worldwide diversity of habitats and the impacts we have on them. We consider global human impacts on the biosphere and its ecosystems. This includes the impacts on ecosystems and biodiversity from: nitrate pollution, global warming, carbon emissions, GM crops, deforestation and wild-fires, fracking and plastic pollution. This leads to a consideration of the causes of the historically recent, large increase in the human population and agricultural intensification. Practical skills are developed through laboratory analysis of an important nutrient and pollutant (nitrogen) and looking at microplastic interactions with invertebrate species. This module is taught using a blend of lectures, on-line activities and practical work. This module is accredited by the Royal Society of Biology as part of Programmes, BSc Hons Applied Bioscience and BSc Hons Applied Bioscience and Zoology.

On completion of the module students will have developed the following graduate attributes: Academic students will develop further their ability to be critical thinkers, knowledgeable and autonomous. Personal skills developed will include: ethical mindfulness/cultural awareness; effective communicators and creative global citizens. Professional:- Socially responsible, enterprising and transformational. The module links to UN SDGs 12,13,14 and 15 related to sustainable development, climate change, and conservation/sustainable use of aquatic resources.

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	Explain the roles of the geological, geochemical and hydrological environment in ecosystems and biodiversity at global and local scales.
L2	Describe the process of nutrient cycling and how it relates to biogeochemical cycles and energy flows.
L3	Be able to describe the significant effects of humankind on the biosphere.
L4	Demonstrate practical skills related to the analysis of nitrates and the impacts of microplastic pollution on invertebrates.
L5	Learn to critically assess and discuss information from a range of sources including scientific papers, internet resources, videos, newspapers etc.

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** Understanding the core theories and principles associated with the planetary system, biogeochemical cycles and habitat diversity on earth. Understanding the major impacts that the human population is having on our planet.
Practice: Applied Knowledge and Understanding	**SCQF 8** The ability to investigate and debate issues associated with the identification of habitats at risk and to describe ways to minimize human impacts and protect habitats.

[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 contemporary global issues such as climate change and habitat destruction from a scientific perspective. Understand the positive and negative aspects of international development.
Communication, ICT and Numeracy Skills	**SCQF 8** Undertake analysis of raw data obtained during laboratory practicals including presentation of data in graphical forms and statistical analysis of data.
Autonomy, Accountability and Working with Others	**SCQF 8** Understanding some of the ethical and professional issues associated with habitat protection legislation. Understanding and developing their role as 'global citizens.' Working with others in a laboratory environment.

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 blended module is delivered by face-to-face activities, on-line elements and student self-directed learning. The module has been developed to encourage a wide range of communication skills and for participants to develop as global citizens capable of critically assessing information related to the Biosphere and humankind from a range of different sources. Lectures are interactive with an emphasis on student engagement and development of critical analysis skills. Experiential components of the module are centred around laboratory practical sessions related to modern pollutants.	
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	12
Laboratory / Practical Demonstration / Workshop	12
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: UNESCO 2020: Humans and the Biosphere (MAB)Programme https://en.unesco.org/mab Biosphere entry (2020): https://www.nationalgeographic.org/encyclopedia/biosphere/ Materials provided via the Aula virtual learning environment site.
(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:** Compulsory attendance at synchronous sessions (lectures, workshops, practicals and tutorials), completion of asynchronous activities, and submission of assessments to meet the learning outcomes of the module. Aula site must be accessed and materials on it used regularily.

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	Mhairi Alexander
External Examiner	J Spicer
Accreditation Details	RSB
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	2

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
On-campus class essay test based on the taught component (50%)
Assessment 2
Coursework assessments - practical write-ups and quiz (50%)
Assessment 3
(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)	☒	☒	☐	☐	☒	50	3

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Report of practical/ field/ clinical work	☒	☒	☒	☒	☒	50	8

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	11 hours

Change Control

What	**When**	**Who**
