

# University of the West of Scotland

## Module Descriptor

### Session: 2023/24

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### Title of Module: Humans and the Global Biosphere

<b>Code: BIOL08025</b>	<b>SCQF Level: 8</b> (Scottish Credit and Qualifications Framework)	<b>Credit Points: 20</b>	<b>ECTS: 10</b> (European Credit Transfer Scheme)
<b>School:</b>	School of Health and Life Sciences		
<b>Module Co-ordinator:</b>	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.

### Module Delivery Method

Face-To-Face	Blended	Fully Online	HybridC	HybridO	Work-based Learning
			✓		

#### Face-To-Face

Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.

#### Blended

A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations

#### Fully Online

Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.

#### HybridC

Online with mandatory face-to-face learning on Campus

#### HybridO

Online with optional face-to-face learning on Campus

#### Work-based Learning

Learning activities where the main location for the learning experience is in the workplace.

<b>Campus(es) for Module Delivery</b>						
The module will <b>normally</b> be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
			✓			

<b>Term(s) for Module Delivery</b>				
(Provided viable student numbers permit).				
Term 1		Term 2	✓	Term 3

<b>Learning Outcomes: (maximum of 5 statements)</b>
<p>On successful completion of this module the student will be able to:</p> <p>L1. Explain the roles of the geological, geochemical and hydrological environment in ecosystems and biodiversity at global and local scales.</p> <p>L2. Describe the process of nutrient cycling and how it relates to biogeochemical cycles and energy flows.</p> <p>L3. Be able to describe the significant effects of humankind on the biosphere.</p> <p>L4. Demonstrate practical skills related to the analysis of nitrates and the impacts of microplastic pollution on invertebrates.</p> <p>L5. Learn to critically assess and discuss information from a range of sources including scientific papers, internet resources, videos, newspapers etc.</p>

<b>Employability Skills and Personal Development Planning (PDP) Skills</b>	
<b>SCQF Headings</b>	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	<p>SCQF Level 8.</p> <p>Understanding the core theories and principles associated with the planetary system, biogeochemical cycles and habitat diversity on earth.</p> <p>Understanding the major impacts that the human population is having on our planet.</p>
Practice: Applied Knowledge and Understanding	<p>SCQF Level 8.</p> <p>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.</p>
Generic Cognitive skills	<p>SCQF Level 8.</p> <p>Undertake critical analysis of contemporary global issues such as climate change and habitat destruction from a scientific perspective.</p> <p>Understand the positive and negative aspects of international development.</p>
Communication, ICT and Numeracy Skills	<p>SCQF Level 8.</p> <p>Undertake analysis of raw data obtained during laboratory practicals including presentation of data in graphical forms and statistical analysis of data.</p>
Autonomy, Accountability and Working with others	<p>SCQF Level 8.</p>

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.

<b>Pre-requisites:</b>	Before undertaking this module the student should have undertaken the following:	
	<b>Module Code:</b>	<b>Module Title:</b>
	<b>Other:</b>	
<b>Co-requisites</b>	<b>Module Code:</b>	<b>Module Title:</b>

\* Indicates that module descriptor is not published.

### Learning and Teaching

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 Man 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.

<b>Learning Activities</b>	<b>Student Learning Hours</b> (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	
Lecture/Core Content Delivery	24
Tutorial/Synchronous Support Activity	12
Laboratory/Practical Demonstration/Workshop	6
Laboratory/Practical Demonstration/Workshop	6
Independent Study	152
	200 Hours Total

### \*\*Indicative Resources: (eg. Core text, journals, internet access)

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

UNESCO 2020: Man 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)

### Engagement Requirements

In line with the Academic Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on the relevant learning platform, and complete assessments and submit these on time. Please refer to the Academic Engagement Procedure at the following link: [Academic engagement procedure](#)

Where a module has Professional, Statutory or Regulatory Body requirements these will be listed here: 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.

### Supplemental Information

<b>Programme Board</b>	Biological Sciences and Health
<b>Assessment Results (Pass/Fail)</b>	No
<b>Subject Panel</b>	Biology L7-11
<b>Moderator</b>	Richard Thacker
<b>External Examiner</b>	J Spicer
<b>Accreditation Details</b>	This module is part of the BSc (Hons) Applied Bioscience and BSc (Hons) Applied Bioscience and Zoology programmes; accredited by Royal Society of Biology (RSB)
<b>Changes/Version Number</b>	1.08  01032023 Altered name of module to Humans and the Global Biosphere. Learning outcome statement 3 changed mankind to humankind. Changed to Hybrid C delivery. Deleted 2 out of date references.

<b>Assessment: (also refer to Assessment Outcomes Grids below)</b>
Class test, based on the taught component (50%)
Coursework assessment (50%)
(N.B. (i) <b>Assessment Outcomes Grids</b> 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 <b>indicative schedule</b> listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Handbook.)

### Assessment Outcome Grids (Footnote A.)

<b>Component 1</b>							
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Learning Outcome (5)	Weighting (% of Assessment Element)	Timetabled Contact Hours
Class test (written)	✓	✓			✓	50	0

<b>Component 2</b>							
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Learning Outcome (5)	Weighting (% of Assessment Element)	Timetabled Contact Hours
Class test (written)	✓	✓	✓		✓	15	2
Report of practical/ field/ clinical work		✓	✓	✓	✓	35	6
<b>Combined Total For All Components</b>						100%	8 hours

#### Footnotes

A. Referred to within Assessment Section above

## B. Identified in the Learning Outcome Section above

## Note(s):

1. More than one assessment method can be used to assess individual learning outcomes.
2. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note).  
This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

**Equality and Diversity**

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. Please refer to the UWS Equality and Diversity Policy at the following link: <http://www.uws.ac.uk/equality/>

**UWS Equality and Diversity Policy**

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)