

# University of the West of Scotland

## Module Descriptor

### Session: 2023/24

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### Title of Module: Applied Aquatic Ecology

<b>Code: BIOL10004</b>	<b>SCQF Level: 10</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>	Kath Sloman		

### Summary of Module

This module deals with some general and some detailed concepts in aquatic ecology with emphasis on applied aspects.

The module begins with a review of freshwater resources and potential anthropogenic impacts. We consider the decline in wild fish catches, increases in aquaculture production and associated environmental problems, ocean acidification and invasive species.

Aquatic contamination is explored through the study of a variety of contaminants including metals, endocrine disruptors, pharmaceuticals and microplastics. The use of aquatic bioassays is explored including toxicity testing using whole organisms, embryo bioassays, and the use of biomarkers as indices of pollution.

### 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.

### Campus(es) for Module Delivery

The module will **normally** 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:
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			✓			
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<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>
On successful completion of this module the student will be able to:
L1. Critically evaluate the concept of water as a resource and discuss issues related to global water use.
L2. Give detailed examples of the ways in which biological knowledge can be used to determine or monitor water quality.
L3. Review and critically evaluate the ways in which man has applied technology in the exploitation of aquatic resources.

<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)	SCQF Level 10. Developing general and integrated understanding of historical experience and current research as applied to use of water as a resource for humans and their environment.
Practice: Applied Knowledge and Understanding	SCQF Level 10. Applying scientific knowledge to solve practical problems.
Generic Cognitive skills	SCQF Level 10. Appreciating the dilemmas inherent in the exploitation of water resources for the benefit of humans while at the same time preserving natural habitats.
Communication, ICT and Numeracy Skills	SCQF Level 10. Abstracting relevant information from databases.
Autonomy, Accountability and Working with others	SCQF Level 10. Working independently. Facilities are also available for students to share resources and engage in debate.

<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>	Pre-requisites - No specific prerequisite modules; however some background in environmental biology is expected.
<b>Co-requisites</b>	<b>Module Code:</b>	<b>Module Title:</b>

\* Indicates that module descriptor is not published.

**Learning and Teaching**

## Learning Activities/Categories:

During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:

**Learning Activities**

During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:

**Student Learning Hours**

(Normally totalling 200 hours):

(Note: Learning hours include both contact hours and hours spent on other learning activities)

Lecture/Core Content Delivery

36

Tutorial/Synchronous Support Activity

12

Independent Study

150

Personal Development Plan

2

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:

\*Recently published journal articles.

Relevant sections of textbooks held in library and accessed through the module reading list.

(\*\*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: Attendance at synchronous sessions (workshops), 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>	James Turner
<b>External Examiner</b>	J Spicer
<b>Accreditation Details</b>	N/A
<b>Changes/Version Number</b>	2.12 Attendance requirements and equality statement updated in line with Divisional text. Campus changed to Lanarkshire. Mode of delivery updated to Hybrid C.

**Assessment: (also refer to Assessment Outcomes Grids below)**

Class test (written) (60%) of final mark
Coursework (40%) of final mark The coursework associated with the module will consist of a portfolio of work carried out in workshops.
(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>					
<b>Assessment Type (Footnote B.)</b>	<b>Learning Outcome (1)</b>	<b>Learning Outcome (2)</b>	<b>Learning Outcome (3)</b>	<b>Weighting (%) of Assessment Element</b>	<b>Timetabled Contact Hours</b>
Class test (written)	✓	✓	✓	60	0

<b>Component 2</b>					
<b>Assessment Type (Footnote B.)</b>	<b>Learning Outcome (1)</b>	<b>Learning Outcome (2)</b>	<b>Learning Outcome (3)</b>	<b>Weighting (%) of Assessment Element</b>	<b>Timetabled Contact Hours</b>
Portfolio of written work	✓	✓	✓	40	0
<b>Combined Total For All Components</b>				100%	0 hours

#### Footnotes

- A. Referred to within Assessment Section above  
B. Identified in the Learning Outcome Section above

#### Note(s):

- More than one assessment method can be used to assess individual learning outcomes.
- 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.

#### [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)