

Module code: MOD007182	Version: 4    Date Amended: 28/Jul/2022
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<b>1. Module Title</b>
Aquatic Biology and Conservation

<b>2a. Module Leader</b>
Dannielle Green

<b>2b. School</b>
School of Life Sciences

<b>2c. Faculty</b>
Faculty of Science and Engineering

<b>3a. Level</b>
5

<b>3b. Module Type</b>
Standard (fine graded)

<b>4a. Credits</b>
15

<b>4b. Study Hours</b>
150

<b>5. Restrictions</b>			
Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
<b>Courses to which this module is restricted:</b>			

## LEARNING, TEACHING AND ASSESSMENT INFORMATION

### 6a. Module Description

We are living on a “blue planet” as around two thirds of the earth is occupied by aquatic habitats. This wondrous environment helps to fill our lungs with the air we breathe, provides food to sustain us and regulates our climate. In Aquatic Biology and Conservation we will explore the diversity of organisms living in marine and freshwater habitats, from the tropics to temperate and arctic ecosystems. How do they survive and thrive in harsh conditions? What adaptations do they need to make in order to cope with changes to salinity and temperature? Through a mixture of interactive lectures, hands-on practical classes and collaborative discussions, you will explore the behaviour, cognition, life cycles and ecological interactions of the wealth of organisms living in aquatic habitats; from microscopic bacteria, to worms, crabs, fish and whales. The majority of humans live within 100km of the coast, sometimes placing enormous pressure on these vitally important ecosystems. What impact are humans and human activities having on our oceans, lakes and rivers? We will discuss a range of conservation issues including overfishing, climate change, and pollution, and will explore cutting-edge solutions to these problems. This module provides you with the basis for further study in aquatic, ecology and conservation modules. You will gain species identification skills as well as transferrable communication skills.

### 6b. Outline Content

Taxonomy of aquatic plants, algae, invertebrates and vertebrates.

Diversity of aquatic habitats.

Physical processes in the oceans – waves and tides.

Chemical processes in aquatic habitats – carbon cycling.

Biogeochemistry of aquatic sedimentary habitats.

Aquatic biodiversity and ecosystem functioning relationships.

Adaptations of aquatic organisms to abiotic conditions.

Lifecycles of marine and freshwater organisms – larval ecology.

The causes and effects of anthropogenic stressors, including climate change (acidification), major chemical pollutants and eutrophication on aquatic ecosystems and conservation strategies.

### 6c. Key Texts/Literature

The reading list to support this module is available at: <https://readinglists.aru.ac.uk/>

### 6d. Specialist Learning Resources

Lab equipment

7. Learning Outcomes (threshold standards)		
No.	Type	On successful completion of this module the student will be expected to be able to:
1	Knowledge and Understanding	Recall the major animal and plant taxa which dominate aquatic communities, and outline their key defining features and adaptations to environmental conditions.
2	Knowledge and Understanding	Describe the key biogeochemical processes in aquatic habitats and discuss their importance in sustaining aquatic life.
3	Knowledge and Understanding	Critically evaluate the impact of human activity on aquatic biodiversity and ecosystem functioning.
4	Intellectual, practical, affective and transferrable skills	Analyse and interpret biotic and abiotic data to develop conservation solutions to hypothetical aquatic issues.

8a. Module Occurrence to which this MDF Refers				
Year	Occurrence	Period	Location	Mode of Delivery
2025/6	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	Hours	Learning Outcomes	Details of Duration, frequency and other comments
Lectures	18	1-4	6 x 3 hrs lecture/workshops
Other teacher managed learning	18	1-4	5 x 3 hrs practical + 3 hrs revision
Student managed learning	114	1-4	Background reading, online activities, preparation for lectures and practicals, and completion of assessments
TOTAL:	150		

9. Assessment for the above Module Occurrence					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Practical	1,2	40 (%)	Fine Grade	30 (%)
Species identification and descriptions. 1000 words equivalent.					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Coursework	3,4	60 (%)	Fine Grade	30 (%)
Conservation case study. 2000 words equivalent.					

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7\*).

In addition, students are required to:

- (a) achieve the qualifying mark for each element of fine graded assessment as specified above
- (b) pass any pass/fail elements

[\* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]