

Module code: MOD002789		Version: 9 Date Amended: 26/Oct/2022	
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1. Module Title			
Marine and Terrestrial Communities			

2a. Module Leader			
Joseph Bailey			

2b. School			
School of Life Sciences			

2c. Faculty			
Faculty of Science and Engineering			

3a. Level			
5			

3b. Module Type			
Standard (fine graded)			

4a. Credits			
15			

4b. Study Hours			
150			

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

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

What is a species? What is an ecological community? The answers to these questions are fundamental to understanding ecosystems. In this module you will apply ecological theories in the classroom and field to learn how the complex interactions between biological organisms scale up to form communities and functioning ecosystems. You will investigate ecological principles that influence species distributions across a range of environments. Lectures will be accompanied by computer sessions that will engage you with sampling and interpreting patterns of biodiversity, strengthening skills in IT and analysis.

These skills will be directly applied in the field. You will plan an investigation into spatial patterns in an ecological community for which you will design and implement your surveying strategy. You will manage and process the data (e.g., calculation of biodiversity metrics) before analysing and interpreting your findings in the context of relevant theory

By the end of this module, you will have a well-developed understanding of the complexity and structure of ecological systems and you, will be able to apply ecological principles to tackling global environmental issues, such as the climate emergency and biodiversity crisis. This is essential for anyone considering a career in biodiversity, conservation, or ecology. You will have developed a range of desirable and transferable employability skills, such as sampling and survey design for a range of taxa, risk assessment for fieldwork and surveying, statistical analysis, report writing, critical thinking through the interpretation of literature and complex datasets, and planning and executing data collection in the field.

6b. Outline Content

- The nature of ecological communities across a range of marine, terrestrial, and freshwater environments
- Assembly of communities, including: dominance, keystone species, commonness, and rarity
- Ecological succession and competition
- Niche theory and habitat association
- Methods of data recording, management, processing, and analysis
- Food webs, trophic structure, and energy flow
- Drivers of change in ecological communities, and their response
- Methods of designing and practically implementing standardised ecological survey techniques
- Biodiversity metric selection and calculation (e.g., metrics used by Natural England)

6c. Key Texts/Literature

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

6d. Specialist Learning Resources
Suitable computer room Technical support Field trips

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	Synthesise and apply fundamental ecological theory to explain how biotic and abiotic factors influence the structure of ecological communities.
2	Knowledge and Understanding	Design and implement standardised ecological surveys to record data on ecological communities.
3	Knowledge and Understanding	Demonstrate teamwork and communication skills in the design, presentation, and implementation of surveying techniques
4	Intellectual, practical, affective and transferrable skills	Analyse and evaluate species community composition data using appropriate biodiversity metrics and statistics

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	12	1,2,4	2 x 3-hr + 6 x 1-hr lectures
Other teacher managed learning	24	2-4	1 x 6-hr fieldtrip; 5 x 2-hr + 1 x 3 hr computer sessions; 3 hrs revision/feedback
Student managed learning	114	1-4	Background reading, preparation for lectures, computer practical follow-ups, group work for designing surveying techniques, 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	Coursework	1,4	30 (%)	Fine Grade	30 (%)
Data Interpretation exercise (800 words)					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Coursework	1-4	70 (%)	Fine Grade	30 (%)
Field Study Report (2200 words)					

Assessment components for Element 011				
Component No.	Assessment Title	Submission Method	Weighting (%)	Components needed for Mark Calculation?
011/1	Group Presentation (10 minutes - 1000 words equivalent)	Scheduled Activity: Timetabled assessment task	30 (%)	All
011/2	Report (1200 words)	Canvas	70 (%)	

<p>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*).</p> <p>In addition, students are required to:</p> <p>(a) achieve the qualifying mark for each element of fine graded assessment as specified above</p> <p>(b) pass any pass/fail elements</p> <p>[* 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]</p>
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