Module Definition Form (MDF)

Module code: MOD011327	**Version:** 1 **Date Amended:** 11/Apr/2025

1. Module Title
Ecology and Evolution

2a. Module Leader
Terri Amory

2b. School
Writtle School of Agriculture, Animal and Environmental Sciences

2c. Faculty
Faculty of Science and Engineering

3a. Level
4

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

5. Restrictions			
Type	**Module Code**	**Module Name**	**Condition**
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	Animal Science Animal Management (Pet Behaviour and Welfare) Animal Management (Zoo and Wildlife Conservation) Conservation and Community Engagement		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

Understanding how ecosystems function is essential for protecting our planet. In this module, you'll explore the key principles in ecology and sustainability, focusing on factors that influence the distribution and abundance of organisms, including the consequences of modern human activities. Evolution will be considered, particularly with respect to natural selection and speciation, helping you understand how life adapts and changes over time.This module is designed to help you build a strong foundation in ecological science, while also developing the critical thinking, research and self-directed learning skills needed for the real-world. You'll also engage with formative activities to support your learning journey and boost your confidence as you apply new ideas.

By the end of this module, you'll have a clearer understanding of how ecology fits within the wider context of biology, and how your knowledge can contribute to solving some of today's most urgent environmental challenges.

6b. Outline Content

- Factors influencing the distribution and abundance of organisms e.g. conditions & resources; tolerance & stress; niche; biological interactions, habitats.
- Ecosystem processes e.g. trophic structure, energy flow, nutrient cycling.
- An introduction to human impacts on ecosystems and the consequences for sustainability
- Neo-Darwinian Evolution including: Mendelian inheritance and punnet squares, populations genetics and Hardy-Weinberg Equilibrium, speciation and natural selection.
- Introduction to standard techniques in ecology (e.g. sampling approaches; identification of flora and fauna; categorisation of habitats including using UKHab Documentation).

6c. Key Texts/Literature

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

6d. Specialist Learning Resources

Access to the Writtle Estate

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	Convey understanding of factors which influence the distribution and abundance of organisms.
2	Intellectual, practical, affective and transferrable skills	Carry out, and evaluate the results of, ecological sampling techniques in relation to UK habitats.
3	Knowledge and Understanding	Demonstrate an understanding of the impacts that human activities can have on the environment and future sustainability.
4	Knowledge and Understanding	Engage with the various aspects of the Neo-Darwinian theory of evolution, including appropriate use of calculations and inheritance probabilities.

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2026/7	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	48	1-4	2h per week
Other teacher managed learning	6	2	Practical skills time
Student managed learning	246	1-4	Self directed learning
TOTAL:	300		

9. Assessment for the above Module Occurrence

The assessment for some modules includes a presentation (see below for details on how this particular module is assessed). We recognise that presenting, especially to a large group, can cause significant anxiety or distress for some students. If this may affect you, please contact your Module Leader or the Disability and Neurodiversity Service as early as possible. We will work with you to consider appropriate reasonable adjustments. Depending on your individual needs, these might include, for example, presenting to a smaller group or presenting only to a member of academic staff.

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Practical	1,2	50 (%)	Fine Grade	30 (%)
Live Brief Survey and report to industry representative					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
011	Examination Writtle	1,3,4	50 (%)	Fine Grade	30 (%)
End of module exam 1..5 hours					

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]