Module Definition Form (MDF)

Module code: MOD009107	**Version:** 3 **Date Amended:** 13/Jun/2024

1. Module Title
Comparative Ecophysiology

2a. Module Leader
Sarah Hart

2b. School
School of Life Sciences

2c. Faculty
Faculty of Science and Engineering

3a. Level
6

3b. Module Type
Standard (fine graded)

4a. Credits
15

4b. Study Hours
150

5. Restrictions

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

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

Ecophysiology is the interrelationship between an organism's physiology and the environment, that allows specialisms in, niche separation, success in extreme habitats, fecundity and survival. In addition, an important emerging research field, conservation physiology, studies organisms' physiological responses to human made environmental change for development of conservation strategies.

We will critically analyse the physiological, cellular, and molecular mechanisms that underpin animal adaptations to environmental conditions, in vertebrate and invertebrate organisms, both marine and terrestrial. These are central mechanisms which underpin animal diversity and adaptation. You will be equipped with an understanding of the toolkit available for the study of ecophysiology of organisms, which are applicable to a wide range of fields both in the lab and the field

6b. Outline Content

Review of basic physiological, cellular, molecular and genetic mechanisms regulating homeostasis of organisms

Evaluation of integrative physiological mechanisms enabling organisms to survive in potentially hostile environmental conditions – oxygen, water, food and energy restriction, temperature, hibernation.

Comparative physiological adaptations in marine and terrestrial animals e.g., diving, locomotion, nervous system, hormones, immune system, reproduction, metamorphosis.

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

Laboratories

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	Compare and contrast the ecophysiology of invertebrate and vertebrate organisms, both marine and terrestrial.
2	Knowledge and Understanding	Critically discuss the relevance of ecophysiology for conservation and resource management
3	Intellectual, practical, affective and transferrable skills	Critically evaluate experimental design in the collection of physiological data
4	Intellectual, practical, affective and transferrable skills	Synthesise and critically evaluate current literature and knowledge on contemporary topics in ecophysiological research

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	24	1-4	24 hrs 8 x 3 hr lectures/ active learning
Other teacher managed learning	13	1-4	laboratory practicals/ 1 hr presentation session
Student managed learning	113	1-4	Background reading, online activities, preparation for lectures & laboratory sessions 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	Coursework	1-2	15 (%)	Fine Grade	30 (%)
In-class MCQ tests. Best 6/8. All components used in calculation are equally weighted (500 words equivalent)					

Assessment components for Element 010			
Component No.	**Assessment Title**	**Submission Method**	**Components needed for Mark Calculation?**
010/1	Week 3 MCQ	Scheduled Activity: Timetabled assessment task	Best 6 out of 8. All components used in calculation are equally weighted
010/2	Week 4 MCQ	Scheduled Activity: Timetabled assessment task	
010/3	Week 5 MCQ	Scheduled Activity: Timetabled assessment task	
010/4	Week 7 MCQ	Scheduled Activity: Timetabled assessment task	
010/5	Week 8 MCQ	Scheduled Activity: Timetabled assessment task	
010/6	Week 10 MCQ	Scheduled Activity: Timetabled assessment task	
010/7	Week 11 MCQ	Scheduled Activity: Timetabled assessment task	
010/8	Week 12 MCQ	Scheduled Activity: Timetabled assessment task	

Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
011	Coursework	2-4	85 (%)	Fine Grade	30 (%)
2 components (2000 words equivalent): C 1: Individual mini grant proposal (1500 words equivalent). C 2: Individual grant proposal presentation (500 words equivalent).					

Assessment components for Element 011				
Component No.	**Assessment Title**	**Submission Method**	**Weighting (%)**	**Components needed for Mark Calculation?**
011/1	Individual video presentation	Canvas	25 (%)	All
011/2	Written mini grant proposal	Canvas	75 (%)	

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]