

Liverpool John Moores University

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Title: BEHAVIOURAL ECOLOGY
Status: Definitive
Code: **5203NATSCI** (122063)
Version Start Date: 01-08-2021

Owning School/Faculty: Biological and Environmental Sciences
Teaching School/Faculty: Biological and Environmental Sciences

Team	Leader
Penny Oakland	Y
Brian Preston	
Mark Feltham	
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Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 55

Total Learning Hours: 200 **Private Study:** 145

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	22
Off Site	14
Online	2
Workshop	17

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Report	Fieldwork write-up	50	
Test	Tests	Online tests	50	

Aims

To study the effects of evolutionary & ecological selection pressures on the behaviour of animals.

Learning Outcomes

After completing the module the student should be able to:

- 1 Evaluate behavioural strategies of wild animals in natural and captive environments by considering data from empirical studies and theoretical approaches (e.g. game theory) to determine how they may be interpreted as adaptive.
- 2 Discuss the design, analysis and presentation of a time budget study on wild animals in captivity.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Zoo Project Report	1	2
Online tests	1	

Outline Syllabus

Introduction to behavioural ecology. Design & implementation of a time budget study relevant to the behavioural ecology of zoo animals. Evolution of cooperative behaviour. The ecology of social relationships with reference to current frameworks (e.g. Hinde & Kummer). Role of game theory (e.g. Hawk-Dove, Sequential Assessment Model, Wars of Attrition) and empirical studies (assessing the influence of e.g. resource ownership, resource value, resource holding potential) to the understanding of the outcomes of animal contests. Optimal foraging theory. Evolutionary arms races: Red-Queen evolution in relation to e.g. predators & prey; cuckoos and their hosts). Sexual conflict and the evolution of variable mating systems. Parental care: ecological & physiological constraints; parental investment theory.

Learning Activities

Module delivered using lectures, workshops and small group work. An observational project at Chester Zoo forms an important element of this module.

Notes

This module examines how ecological and evolutionary factors affect the survival and reproductive behaviour of animals. The role of ecological and evolutionary selection pressures to maximise inclusive fitness in wild animals is stressed. Particular emphasis is placed on the design and interpretation of a behavioural time

budget study on zoo animals.