

Liverpool John Moores University

Title: COMPARATIVE ANIMAL PHYSIOLOGY
Status: Definitive
Code: **5215NATSCI** (122075)
Version Start Date: 01-08-2021

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

Team	Leader
Sally Williamson	Y
Andrias O'Reilly	
Will Swaney	
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Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 59
Total Learning Hours: 200 **Private Study:** 141

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	22
Off Site	4
Practical	8
Seminar	4
Tutorial	5
Workshop	16

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	report	practical report including analysing, presenting and interpreting class data generated during the chemotaxis in model organisms practical	50	

Category	Short Description	Description	Weighting (%)	Exam Duration
Presentation	seminar	group seminar on one of the topics not assessed by the practical report	50	

Aims

The course aims to build on the concepts of animal physiology taught at level 4, allowing students to gain practical skills and theoretical knowledge in key aspects of the main physiological systems of different animal phyla. The course content will reflect the expertise and research interests of the teaching team, allowing students to appreciate how the taught content integrates with current research. The course is also designed to prepare students for advanced physiological studies in the level 6 module Current Topics in Zoology.

Learning Outcomes

After completing the module the student should be able to:

- 1 Evaluate the similarities and the differences between physiological systems in different animal phyla.
- 2 Discuss the role of the sensory systems, nervous system, and endocrine systems in animal physiology and behaviour
- 3 Critically evaluate the utility of model organisms for studying physiological processes
- 4 Work effectively in a team to produce an oral presentation.

Learning Outcomes of Assessments

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

Practical report on chemotaxis	1	2	3
Seminar presentation	1	2	4

Outline Syllabus

The module will focus on employing a comparative approach to study physiological systems across different animal phyla. Major physiological processes such as nervous transmission, hormonal control, and reproduction will be covered. The value and limitations of model organisms in studying physiological processes will be discussed. The biophysical aspects of sensory biology will be introduced: for example wavelengths of light and refraction in visual systems, and the biophysical basis of electroreception and nervous transmission.

Learning Activities

The module is designed to be 50% lecture based, with 50% of the taught hours comprising practicals, workshops and an offsite trip to an aquarium or zoo. The workshops will feature a strong practical element, and may involve computer-based activities, or preparatory activities to gain laboratory skills needed for the practical classes.

Notes

This course will allow students to learn about physiological systems across animal phyla. Neurobiology, endocrinology, and the link between genes, proteins and behavioural phenotypes will be taught, to reflect the expertise and research interests of the teaching team. The concept of model organisms will be introduced, and model organisms will be used in the practical activities.