

Liverpool John Moores University

Title: ANIMAL PHYSIOLOGY
Status: Definitive
Code: **4210NATSCI** (122050)
Version Start Date: 01-08-2021

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

Team	Leader
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Academic Level: FHEQ4 **Credit Value:** 20 **Total Delivered Hours:** 62.5

Total Learning Hours: 200 **Private Study:** 137.5

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	29
Online	5
Practical	18
Seminar	6
Workshop	3

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	MCQ exam	MCQ Exam online open book	40	1.5
Presentation	Group Pres	Group seminar normally n= 6-8 students	30	
Portfolio	Port	Mini rubric based practical assessments	30	

Aims

To provide an introduction to the major physiological processes and homeostasis in animals. Adopting an adaptive approach, this module follows the development of animal organ systems according to influential environmental drivers.

Learning Outcomes

After completing the module the student should be able to:

- 1 Describe the physiological and biochemical basis to fuelling and maintaining homeostasis in animal tissues.
- 2 Identify how animals adapted their physiology to conserve homeostatic control as they diverged and increased in complexity
- 3 Demonstrate the relationship behind influential environmental factors and the function of animals or humans in their environment.
- 4 Draw comparisons between organ systems epitomising distinct solutions to physiological challenges.
- 5 Demonstrate competence in the manipulation and display of physiological data.
- 6 Work effectively, normally as part of a team, to produce an oral presentation

Learning Outcomes of Assessments

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

MCQ exam	1	2	3	4		
Group seminar	1	2	3	4	5	6
Practical Portfolio	1	2	3	4	5	6

Outline Syllabus

Introduction: What do we mean by animal physiology? The internal and external environments. The concept of homeostasis. Basic biochemistry of living organisms, including the relevance of the laws of thermodynamics. The periodic table, structure of atoms and molecules. Different types of chemical bonds. Chemical symbols, formulae and chemical equations. Solutions, concentrations (e.g. molarity, ppm), dilution factors, the measurement of pH and how it affects chemical processes. Circulatory physiology: transport of respiratory gases; general principles behind circulatory design; limits imposed by body size on circulatory strategy. Respiratory physiology: Physical factors affecting exchange of respiratory gases; the biomechanics & control of gas exchange in animal phyla; respiration in extreme environments. Basic sensory physiology.

Learning Activities

Group seminar work

Workshops for reading, literature searching and exam technique skills

Practicals. The ratio of staff to students is managed at 15:1 in practicals as they are supplemented by postgraduate demonstrators.

On line mobile phone friendly tests (on line activity) that reflect on previously taught sessions and look forward to the impending practical session.

Pre lab learning software

Lectures

Notes

An introduction to the major physiological processes and the concept of homeostasis in animals. Adaptive functions of the respiratory, circulatory, digestive, thermoregulatory & osmoregulatory systems in aquatic and terrestrial environments.