

Liverpool John Moores University

Title: Animal Physiology and Biochemistry
Status: Definitive
Code: **3502YAUZOO** (127900)
Version Start Date: 01-08-2021

Owning School/Faculty: Biological and Environmental Sciences
Teaching School/Faculty: Yunnan Agricultural University

Team	Leader
Rachael Symonds	Y

Academic Level: FHEQ3 **Credit Value:** 20 **Total Delivered Hours:** 100
Total Learning Hours: 200 **Private Study:** 100

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	96

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Timed written exam covering animal physiology teaching content	30	2
Report	Coursework	Coursework assessment report covering physiology teaching content	20	
Exam	Exam	Timed written exam covering animal biochemistry teaching content	35	2
Report	Coursework	Coursework assessment report covering animal biochemistry teaching content	15	

Aims

Animal Physiology and Biochemistry covers the various systems, organs, and cells of the animal body from a physiological and biochemical perspective. It includes the transport function and information transmission in the animal's body; the physiology of the heart, blood vessels and blood circulation, the physiology of breathing; the physiology of digestion; the regulation of energy metabolism and body temperature; the physiology of urology. This basic knowledge must be gained by undergraduates majoring in animal science. The main task of this course is to enable students to master the basic concepts and principles of biochemistry and the basic characteristics and general laws of life activities.

Learning Outcomes

After completing the module the student should be able to:

- 1 Master the chemical composition and nature of animal the body and clearly understand cell functions and their mechanisms through to whole body systems.
- 2 Clearly understand and master the intermediate metabolism process and regulation mechanism of the body, integrate theory with practice, and cultivate students' ability of observation, thinking and innovation.
- 3 Master the basic theories, knowledge and skills of animal biochemistry
- 4 Training in scientific thinking and method.
- 5 Master the function and regulation of the blood and blood circulation system, the respiratory system and its regulation and the digestive, urinary and endocrine systems.

Learning Outcomes of Assessments

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

Written exam	1	2	4	5
Coursework	1	2	4	5
Written exam	3	4	5	
Coursework	3	4	5	

Outline Syllabus

This course focuses on the basic characteristics of life involving metabolism and transmission of genetic information. It describes the composition and structure of the basic substances that make up life such as protein, sugars and lipids and the metabolic changes in the body, and the relationship between these changes. It focuses on the metabolism process of three major nutrients in vivo and the central principle of nucleic acid which is the genetic material of life. The rich knowledge of this course not only teaches the biochemical background related to ordinary life activities, but also the biochemical content related to animals and humans, and intersperses biochemical reactions under pathological conditions in depth. This course then focuses on the main functions and mechanisms of cells; the functions and regulation of blood and blood circulation systems; the functions and regulation of

the respiratory system; its regulation; the principle of energy metabolism and body temperature regulation; urinary system function and its regulation; hormones secreted by important glands of the endocrine system, their physiological functions, and their regulation.

Learning Activities

This course focuses on classroom teaching and adopts diversified teaching models and evaluation methods to promote the realisation of learning objectives.

Notes

The module is for individuals to master the basic theories, basic knowledge and basic skills of animal biochemistry and physiology and lay the foundation to further study the other professional basic courses and professional courses. It will cover material from the level of cells and molecules, organs and systems, and the overall and environmental levels, so as to have comprehensive analysis of animal physiology and biochemistry.