Module Proforma

Approved, 2022.02

Summary Information

Module Code	3523IFESG
Formal Module Title	Biology 2
Owning School	Engineering
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 3
Grading Schema	40

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Lonnie Readioff	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
Melissa Russell	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
Study Group

Learning Methods

Learning Method Type	Hours
Lecture	26
Seminar	39

Module Offering(s)

Offering Code	Location	Start Month	Duration
APR-PAR	PAR	April	12 Weeks
JAN-PAR	PAR	January	12 Weeks

Aims and Outcomes

Aims	To provide foundation students with an introduction to Physiological processes in animals and plants in preparation for undergraduate degrees in biological or biochemical sciences. The focus will be on mammalian physiology (especially human).Some examples of plant tissues and plant physiology will be treated for balance. Laboratory work is included to introduce students to the skills needed to function in a UK based laboratory.

Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Understand the structural and functional properties of the biological tissues and physiological systems covered in the syllabus.
MLO2	Explain how these systems operate and are controlled using accurate biological vocabulary.
MLO3	Interpret biological images and diagrams.
MLO4	Understand the role genetics, evolution and ecosystems play in biological systems.

Module Content

Outline Syllabus
Introduction to biological systems: structure and function of organisms, tissues and organs focussing on mammalian (primarily human) and plant systems. Gas exchange and mass transport: gas exchange and translocation in plants, gas exchange and mass transport in mammals focussing on the human respiratory and cardiovascular systems. Digestion and nutrients: introduction to the types of nutrition in organisms focusing on heterotrophs, the structure and function of the human digestive system and the mechanisms of digesting the main food types. Responses to internal and external stimuli: Stimuli and receptor organs, the nervous system, nerve impulses and synapses, muscles and movement, the endocrine system and hormones, homeostasis, the urinary system and osmoregulation. Immune system and disease: responses of the innate and adaptive immune systems, pathogens, introduction to infectious and non-infectious diseases in humans. Introduction to ecosystems: the biosphere and biomes, energy transfer in ecosystems, food chains and food webs, nutrient cycles, succession.

Module Overview

Additional Information

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Exam	Examination	60	1.5	MLO1, MLO3, MLO2, MLO4
Report	Laboratory experiments	40	0	MLO1