Module Proforma

Approved, 2022.02

Summary Information

Module Code	3514IFESG
Formal Module Title	Biology 1
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
Jack Mullett	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings

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
JAN-PAR	PAR	January	12 Weeks
SEP-PAR	PAR	September	12 Weeks

Aims and Outcomes

Aims	To provide foundation students with an introduction to biochemistry, cell biology, genetics and ecology in preparation for undergraduate degrees in biological or biochemical sciences. Students will also have an opportunity to critically engage with research and develop their use of scientific writing and analytical thinking. 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	Demonstrate an understanding of the key concepts outlined in the syllabus, most notably molecules, cells and genetics.
MLO2	Describe and explain biological situations using concise and appropriate language.
MLO3	Interpret experimental data from research papers and use a critical and scientific approach to evaluate the hypotheses and conclusions presented in research against evidence.
MLO4	Be able to operate safely in a laboratory setting to undertake simple experiments related to the syllabus.

Module Content

Outline Syllabus
Biologically important molecules: water, carbohydrates, lipids, proteins and nucleic acids. Cells: structure of eukaryotic and prokaryotic cells, structure and function of cell organelles in plant and animal cells, cell membrane structure and mechanisms of membrane transport. Metabolism: processes, molecules and structures involved in photosynthesis and both anaerobic and aerobic respiration. Genetics and variation: processes of DNA replication and protein synthesis, the cell cycle and mitosis, generation of genetic variation through meiosis, inheritance of genetic traits. Introduction to experimental design and the scientific method. Introduction to evolution and ecology: including natural selection and speciation, taxonomic classification of organisms and biodiversity, abiotic and biotic factors.

Module Overview

Additional Information

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Exam	Examination	50	1.5	MLO1, MLO2
Report	Critical review	25	0	MLO3
Practice	Four lab experiments	25	0	MLO4