

Liverpool John Moores University

Title: PRACTICAL SKILLS FOR BIOLOGY
Status: Definitive
Code: **4202NATSCI** (122041)
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:** 74
Total Learning Hours: 200 **Private Study:** 126

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	10
Off Site	32
Practical	18
Workshop	14

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Presentation	Blog post	Blog	40	
Test	Test	Practical Test	60	

Competency	Practical Skills
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Aims

To acquire and demonstrate theoretical and practical knowledge of laboratory and field-based methods in modern biology, with particular emphasis on familiarizing with basic laboratory techniques and equipment, ethics, and safe working practices.

Learning Outcomes

After completing the module the student should be able to:

- 1 Prepare for and conduct laboratory and fieldwork safely, including the completion of risk assessments.
- 2 Use basic lab instruments correctly, including microscopes, pipettes, scales, spectrophotometers, pH meters, and electrophoresis equipment.
- 3 Apply basic concepts in chemistry and maths such as pH, buffering, and molarity.
- 4 Record, present and communicate scientific information in an appropriate and professional manner, following principles of good laboratory practice.
- 5 Acknowledge and discuss the importance of ethics when designing, conducting and reporting experiments.
- 6 Apply creativity to different aspects of the scientific work, such as the design of experiments and the communication of science.

Learning Outcomes of Assessments

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

Blog post	4	6			
Practical Test	1	2	3	4	
Practical Skills	1	2	3	4	5

Outline Syllabus

Introduction to basic laboratory instruments, methods and analytical techniques.

Introduction to basic field survey techniques.

Introduction to basic biochemical and mathematical concepts.

Safe work and good practice in the laboratory and the field.

Different data recording techniques for laboratory and field situations.

Bioethics.

Effective team work for conducting and presenting experiments.

Learning Activities

The module will be delivered through a combination of lectures, laboratory practicals, workshops and field investigations in the UK.

Notes

Students will acquire and develop fundamental research and transversal skills, which they will apply and train further throughout the degree and in their future professional careers.