Module Proforma

Approved, 2022.02

Summary Information

Module Code	7106BTBMOL
Formal Module Title	Biomolecular Research Skills and Data Analysis
Owning School	Pharmacy & Biomolecular Sciences
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Gavin McStay	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
Giles Watts	Yes	N/A
Darren Sexton	Yes	N/A
Jon Ashley	Yes	N/A
Femi Olorunniji	Yes	N/A
Iain Dykes	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings

Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	10
Workshop	22

Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

Aims	To equip students with the necessary core skills to effectively search for information, critically appraise and analyse data, report scientific data, and communicate research findings.

Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Search, critically evaluate and use appropriate scientific literature relevant to a research project
MLO2	Critically analyse and appraise experimental data and write a clear and concise report using these results.
MLO3	Use programming tools and statistics to organise and analyse data
MLO4	Communicate scientific information in a contextual manner

Module Content

Outline Syllabus
Overview of the scientific method.Designing a research project.Literature searching, referencing, and reviewing.Project planning, methodology design, and good laboratory practice.Data Analysis: Understanding of the purpose of data analysis; recognise the appropriate statistical analysis tools for different data sets; use R to perform analyses on data, interpret, report and use graphical tools to present data.Reporting scientific finding, publishing and protecting intellectual property.

Module Overview

Additional Information
The workshops in this module are based upon the work undertaken by scientists working in the biotechnology industry sector and those pursuing research career in the life sciences. They will give the student the necessary skills and experience to meet the workplace needs of biotechnology industries. They have been developed in consultation with employers of biotechnology graduates who have confirmed that the data analysis sessions are suitable and applicable to the industrial and biomedical workplace.Inclusivity: A conscious effort will be made to elevate the contributions of scientists from underrepresented groups, incorporating their research papers into the lecture material, showing photographs of diverse researchers, exploiting the EDIpedia database and highlighting good practice.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Report	Critical review of a paper	50	0	MLO2, MLO1, MLO3
Report	Data analysis	50	0	MLO4, MLO2, MLO3