

Summary Information

Module Code	7108BTBMOL
Formal Module Title	Advanced Topics in Biotechnology
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
Femi Olorunniji	Yes	N/A
Iain Hargreaves	Yes	N/A
Pattanathu Rahman	Yes	N/A
Jon Ashley	Yes	N/A
Glyn Hobbs	Yes	N/A
Baoxiu Qi	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
--------------	--------------------------	-----------

Katy Helm	Yes	N/A
-----------	-----	-----

Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	22
Seminar	4
Workshop	12

Module Offering(s)

Offering Code	Location	Start Month	Duration
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	This module will provide students with a strong awareness of novel developments in the field of biotechnology and how these concepts could lead to real world applications. This will be accomplished through research-led lectures on recent developments in biotechnology with emphasis on breakthroughs that are likely to impact innovation in the field. It will also equip students with the necessary core skills to identify new research projects, identify research objectives, and develop a research proposal. Through the assessments, the module will help students develop directed literature search and proposal writing skills.
-------------	---

Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Conduct knowledge-based evaluation of new developments in the field of biotechnology via critical appraisal of the literature.
MLO2	Develop a comprehensive and critical awareness of current research areas with potential applications in industrial biotechnology.
MLO3	Demonstrate skills in planning research with relevant experimental methodology.
MLO4	Initiate, develop and write a research proposal.

MLO5	Communicate scientific information synthesised from literature search to an audience with interests in applied biotechnology.
------	---

Module Content

Outline Syllabus

The primary focus will be on lectures on selected topics reflecting new findings in the field and areas of current research interest at the forefront of biotechnology. Bioprocessing, genome editing and gene therapy, plant biotechnology, production of biologics, vaccines, diagnostics, biosensors, bioremediation. Circular economy and Sustainability, Renewable energy technologies, Blue Biotechnology, Project Management. Designing Research projects and writing research proposals to develop innovative biotechnology solutions.

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	Research Proposal Report	50	0	MLO4, MLO3, MLO5, MLO1, MLO2
Presentation	Lit Review presentation	50	0	MLO5, MLO1, MLO2