

# Cell Technology

## Module Information

2022.01, Approved

### Summary Information

Module Code	7104BTBMOL
Formal Module Title	Cell Technology
Owning School	Pharmacy & Biomolecular Sciences
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

### Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

### Learning Methods

Learning Method Type	Hours
Lecture	21
Practical	9
Seminar	4

### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

### Aims and Outcomes

Aims	To provide an understanding of cell culture as a technological component of aspects of biological research and commercial exploitation.
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## After completing the module the student should be able to:

### Learning Outcomes

Code	Number	Description
MLO1	1	Demonstrate an advanced understanding of the applications of cell technology and critically discuss the techniques used in culturing animal cells.
MLO2	2	Critically discuss the principles involved in the commercial production of therapeutic agents from cells.
MLO3	3	Analyse, interpret and critically discuss data relating to cell technology.
MLO4	4	Critically evaluate methods which are commonly used in plant cell culture.

### Module Content

Outline Syllabus	Animal cell culture methods and factors necessary for the maintenance and growth of cells in culture. Design of culture facilities. Safety issues. Genetic engineering of animal cells: infection, expression vectors, immortalised cell lines, transgenic animals. Animal cell products and commercialisation. Plant cell culture and commercial products derived from plant cells. Protein expression and processing. Scale-up, bioreactors, process control and downstream processing.
Module Overview	This module provides an insight into the principles and practical techniques involved in the commercial exploitation of animal cell processes. It aims to provide an understanding of cell culture as a technological component of biological research and commercial exploitation.
Additional Information	This module provides an insight into the principles and practical techniques involved in the exploitation of animal cell processes for the commercial and healthcare sectors. Employability: The practical sessions 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 companies. They have been developed in consultation with employers of biotechnology graduates who have confirmed that the practical 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)	Module Learning Outcome Mapping
Centralised Exam	Examination	60	2	MLO1, MLO2, MLO4
Report	Report	40	0	MLO3, MLO4

### Module Contacts

#### Module Leader

Contact Name	Applies to all offerings	Offerings
Baoxiu Qi	Yes	N/A

**Partner Module Team**

Contact Name	Applies to all offerings	Offerings
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