

**Summary Information**

<b>Module Code</b>	5101BMBMOL
<b>Formal Module Title</b>	Biomedical Research Methods
<b>Owning School</b>	Pharmacy & Biomolecular Sciences
<b>Career</b>	Undergraduate
<b>Credits</b>	20
<b>Academic level</b>	FHEQ Level 5
<b>Grading Schema</b>	40

**Module Contacts**
**Module Leader**

Contact Name	Applies to all offerings	Offerings
Pattanathu Rahman	Yes	N/A

**Module Team Member**

Contact Name	Applies to all offerings	Offerings
Giles Watts	Yes	N/A
Glyn Hobbs	Yes	N/A
Darren Sexton	Yes	N/A
Adam Lightfoot	Yes	N/A
Gavin McStay	Yes	N/A
Iain Hargreaves	Yes	N/A

**Partner Module Team**

Contact Name	Applies to all offerings	Offerings
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## Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

## Learning Methods

Learning Method Type	Hours
Lecture	35
Tutorial	5
Workshop	15

## Module Offering(s)

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

## Aims and Outcomes

<b>Aims</b>	The aim of this module is to equip biomedical science students with essential research skills and knowledge of methods and techniques that are routinely applied in biomedical research.
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## Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Develop and display an understanding of the fundamental biomedical research methods and techniques that are routinely used in a laboratory setting.
MLO2	Apply knowledge of fundamental methods and techniques that are routinely used in biomedical research to help design, plan and develop a biomedical research proposal.
MLO3	Develop and apply scientific writing, presentation and team-working skills.
MLO4	Demonstrate engagement with interpretation and analysis of scientific results/data including the use of appropriate statistical analysis.

## Module Content

### Outline Syllabus

The module will introduce biomedical research and introduce the principles and applications of the main laboratory-based techniques and methods commonly used in biomedical research (e.g. antibody-based techniques, high performance liquid chromatograph, mass spectrometry, flow cytometry, microscopy) as well as new technological advances in biomedical research. Genomic, transcriptomic and proteomic methods will be introduced. The module will also introduce research specific methods and techniques including; research planning, experimental design, measurement and instrumentation, data summarisation/presentation and statistical analysis.

### Module Overview

The aim of this module is to equip you with essential research skills and knowledge of methods and techniques that are routinely applied in biomedical research.

### Additional Information

Through a range of teaching and learning activities this module will provide opportunities for the students to learn, develop and demonstrate a range of key biomedical research skills/knowledge, thus enabling them to become independent researchers while preparing them for level 6 study. No specific benchmarks are available for this module, but the learning outcomes at least meet, if not exceed, those stipulated in the relevant qualification descriptors for a higher education qualification at level 5 as defined by QAA, Sept 2015. The module has also been informed by the benchmark statement for Biomedical Science June 2015. Intake is every September. The criteria for admission to the module require that candidates meet the criteria for admission to the BSc Biomedical Science programme (32805). The final award is Certificate of Professional Development in Biomedical Research Methods, 20 credits at Level 5. The students have access to a module Canvas site and the University's other range of electronic support such as access to the electronic library facilities. The module content is regularly updated on the Canvas site including contemporary reading lists and links to journal articles. Students have access to the community site for Biomedical Science. All students have access to the module leader through phone contact and email. Module and CPD guides are also provided, which provide a range of information. The programme is assessed and run in line with the Academic Framework <http://www.ljmu.ac.uk/eaqs/121984.htm> The module is accredited by The Institute for Biomedical Science (Sept 2016- Aug 2021). The module forms part of the BSc Biomedical Science programme (32805) which was reviewed in April 2016. The methods for improving the quality and standards of learning are as follows: • Annual monitoring Review; • Liaison and feedback from the students; • Reports from External Examiner; • Programme team ensuring the module reflects the values of the current teaching and learning strategy; • Module leader updating knowledge and skills to ensure these remain current and relevant. The module is included in the programme specification for the BSc Biomedical Science programme (32805). The module is aligned with the same BSc Biomedical Science module for annual monitoring and external examining purposes.

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Presentation	Group Presentation	40	0	MLO3, MLO1
Report	Research Proposal	60	0	MLO2, MLO4, MLO3