

### Summary Information

<b>Module Code</b>	4103BMBMOL
<b>Formal Module Title</b>	Principles of Biochemistry
<b>Owning School</b>	Pharmacy & Biomolecular Sciences
<b>Career</b>	Undergraduate
<b>Credits</b>	20
<b>Academic level</b>	FHEQ Level 4
<b>Grading Schema</b>	40

### Module Contacts

#### Module Leader

Contact Name	Applies to all offerings	Offerings
Kenneth Ritchie	Yes	N/A

#### Module Team Member

Contact Name	Applies to all offerings	Offerings
Khalid Rahman	Yes	N/A
Andrew Powell	Yes	N/A
Amanda Reid	Yes	N/A
Femi Olorunniji	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	36
Practical	15

## Module Offering(s)

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

## Aims and Outcomes

<b>Aims</b>	The aim of this course is to provide an education in the fundamental biochemical processes which occur in the cell. This will be underpinned by a thorough introduction into the relevant molecular biology of DNA, proteins and lipids.
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## Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Explain the structure and function of basic biological molecules such as proteins, carbohydrates, lipids and DNA.
MLO2	Explain the major metabolic pathways of cellular metabolism.
MLO3	Analyse and present basic biochemical data in the form of a practical report
MLO4	Describe the planning and organisation of practical work
MLO5	Describe leadership and mobilising others in a practical

## Module Content

### Outline Syllabus

This course will present the fundamental underlying principles of biochemistry from first principles, and as such will focus on the relevant molecular groups, structures and chemical reactions for each distinct branch of biochemistry. The structure and function of DNA will also be considered and a brief overview of transcription and translation also given. Building upon this knowledge of fundamental groups and chemical reactions, students will then be introduced to cellular energy metabolism: Glycolysis and gluconeogenesis, glycogen metabolism, the citric acid cycle, oxidative phosphorylation, the Calvin cycle, fatty acid metabolism, amino acid catabolism, TCA cycle, respiration and the clinical and commercial implications of these pathways.

### Module Overview

The aim of this module is to provide an education in the fundamental biochemical processes which occur in the cell. This will be underpinned by a thorough introduction into the relevant molecular biology of DNA, proteins and lipids.

### Additional Information

The aim of this course is to provide an education in the metabolic chemical processes which occur in the cell. This will be underpinned by a thorough introduction into relevant biological and chemical structures at the molecular level. Each student will also do a range of practicals which will investigate the characteristics of biological molecules. Knowledge and comprehension questions will accompany a thorough write-up of the practical. The exam will consist of both multiple choice questions and short answer questions which will cover both the practical and lecture content of the course.

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Centralised Exam	Examination	50	1.5	MLO2, MLO1
Report	Practical report	50	0	MLO3, MLO4, MLO5