

Liverpool John Moores University

Title: METABOLIC BIOCHEMISTRY
Status: Definitive
Code: **5102BCBMOL** (122489)
Version Start Date: 01-08-2021

Owning School/Faculty: Pharmacy & Biomolecular Sciences
Teaching School/Faculty: Pharmacy & Biomolecular Sciences

Team	Leader
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Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 60

Total Learning Hours: 200 **Private Study:** 140

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	33
Practical	12
Seminar	4
Workshop	9

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	reports	Practical portfolio will consist of at least two full practical reports from practical sessions.	50	
Exam	exam	Seen essay will be provided four weeks before exam date.	50	2

Aims

Gain a thorough understanding of how metabolic pathways are integrated and regulated in prokaryote and eukaryote cells. Consider and understand how pathways governing detoxification operate in eukaryote cells. Evaluate the use of laboratory test for the determination of biochemically important molecules.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate an understanding of the mechanisms regulating biochemical pathways (biosynthetic and detoxification) operating in eukaryotic and prokaryotic cells.
- 2 Appraise the role of biochemical tests in a clinical setting.
- 3 Analyse and evaluate experimental findings by referring to the literature

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Practical reports	2	3
Final exam	1	3

Outline Syllabus

Introduction to clinical Biochemistry.

Integration and control of metabolism.

Biosynthetic pathways including: amino acids, nucleotides, steroids, etc.

Calvin cycle and Pentose phosphate pathway.

Detoxification - P450 family, ROS, glutathione.

Techniques linked to clinical biochemistry analysis: LDH, G-6-phosphatase.

Learning Activities

Lectures to contextualise and deliver the key concepts.

Workshops to explore the lecture material, enhance critical thinking skills.

Seminars to evaluate and reflect on learning.

Practicals to develop subject specific skills and to make the connections with the theory.

Notes

This module will enable students to gain a deeper understanding of the regulation

and interaction of metabolic pathways within eukaryotic and prokaryotic cells. Detoxification within eukaryotic cells will be introduced. Recommended text and journal reference links can be found on the blackboard site for this module.