

Summary Information

Module Code	5102BCBMOL
Formal Module Title	Metabolic Biochemistry
Owning School	Pharmacy & Biomolecular Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	33
Practical	12
Seminar	4
Workshop	9

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

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.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Demonstrate an understanding of the mechanisms regulating biochemical pathways (biosynthetic and detoxification) operating in eukaryotic and prokaryotic cells.
MLO2	2	Appraise the role of biochemical tests in a clinical setting.
MLO3	3	Analyse and evaluate experimental findings by referring to the literature

Module Content

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, using spectrophotometric enzyme assays to determine the activities of mitochondrial respiratory chain complex I, and the mitochondrial marker, citrate synthase.
Module Overview	This module will enable you to gain a deeper understanding of the regulation and interaction of metabolic pathways within eukaryotic and prokaryotic cells. You will evaluate the use of laboratory tests for the determination of biochemically important molecules.
Additional Information	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 Canvas site for this module. The practicals in this module provide the student with experience of the current biochemical assays employed to diagnose mitochondrial respiratory chain disorders in a NHS laboratory and are run and supervised by an honorary consultant clinical Scientist.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Portfolio	2 Practical reports	50	0	MLO2, MLO3
Centralised Exam	Final exam	50	2	MLO1, MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Iain Hargreaves	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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