

Liverpool John Moores University

Title: BIOCHEMISTRY
Status: Definitive
Code: **4000BCBMOL** (101424)
Version Start Date: 01-08-2011

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

Team	Leader
Kehinde Ross	Y
Andrew Powell	
Helen Burrell	
Mark Murphy	
Khalid Rahman	
Amanda Reid	
David Billington	

Academic Level: FHEQ4 **Credit Value:** 12.00 **Total Delivered Hours:** 37.00
Total Learning Hours: 120 **Private Study:** 83

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	20.000
Online	1.000
Practical	12.000
Workshop	3.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	examination	60.0	1.00

Aims

To provide a basic introduction to, and an overview of, biochemistry.

Learning Outcomes

After completing the module the student should be able to:

- 1 Describe the structure of DNA and RNA and the mechanism of expression of genetic information.
- 2 Describe eukaryotic and prokaryotic genomes and the control of gene expression.
- 3 Describe the different levels of protein structure and basic enzyme function/kinetics.
- 4 Describe the structure and functions of membranes.
- 5 Carry out a number of basic biochemical methodologies.

Learning Outcomes of Assessments

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

EXAM 1 2 3 4 5

Outline Syllabus

Cell structure.

Protein structure and function: Amino acids. Primary, secondary, tertiary and quaternary protein structure. Enzymes: kinetics, inhibition, allosteric effects.

Constitutive, inducible and repressible enzymes.

Nucleic acid Biochemistry: Structure of DNA and RNA, the genome. Replication, transcription and translation in prokaryotes. The genetic code.

Membranes: Chemical structure and function, the Singer-Nicolson model. Membrane transport and receptors.

Learning Activities

Lectures, practicals and workshops.

References

Course Material	Book
Author	Mathews, C.K., Van Holde, K.E. and Ahern, K.G.
Publishing Year	2000
Title	Biochemistry
Subtitle	
Edition	3rd Ed.
Publisher	Addison Wesley Longman
ISBN	0-8053-3066-6

Course Material	Book
------------------------	------

Author	Berg, J.M. Tymoczko, J.L. and Stryer, L.
Publishing Year	2006
Title	Biochemistry
Subtitle	
Edition	6th Ed
Publisher	Freeman
ISBN	0-7167-8724-5

Course Material	Book
Author	Brown, T.A.
Publishing Year	2002
Title	Genomes 2.
Subtitle	
Edition	
Publisher	Bios
ISBN	185996029-4

Course Material	Book
Author	Alberts et al
Publishing Year	2008
Title	Molecular Biologist of the Cell
Subtitle	
Edition	5th
Publisher	Garland
ISBN	9780815341062

Notes

The module provides an overview of biochemistry. It provides a basis for further study, and is also suitable for students who are unlikely to study the subject further. Mathematical procedures and chemical formulae are used but are kept to the necessary minimum.