Liverpool John Moores University

Title:	Molecular Bioscience
Status:	Definitive
Code:	**5015BCBMOL** (117407)
Version Start Date:	01-08-2015
Owning School/Faculty:	Pharmacy & Biomolecular Sciences
Teaching School/Faculty:	Pharmacy & Biomolecular Sciences

Team	Leader
Andrew Powell	Y
Kehinde Ross	
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Academic Level:	FHEQ5	**Credit Value:**	24.00	**Total Delivered Hours:**	56.50
Total Learning Hours:	240	**Private Study:**	183		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	34.000
Seminar	20.500

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Critical appraisal of primary literature including cell biology techniques producing a report in applicable format	50.0	
Exam	AS2	Learn content in order to explain topics in molecular bioscience	50.0	2.00

Aims

To develop a deeper understanding of structural and functional aspects of macromolecules, particularly proteins, in biology.

Learning Outcomes

After completing the module the student should be able to:

LO1	Critically appraise the principles and techniques of biochemistry and molecular cell biology mentioned in scientific literature
LO2	Explain in depth important aspects of macromolecules, protein regulation and cellular function

Learning Outcomes of Assessments

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

Coursework	LO1
Exam	LO2

Outline Syllabus

1.Protein and glycan purification and analysis: Importance, detection & monitoring, separation, analysis.
2.Protein regulation: Mechanisms of inhibition, activation, cooperativity, allostericity, proteolysis and phosphorylation.
3.Intra- and inter-cellular communication: The roles of cellular communication, roles and types of signal transduction pathways.
4.Experimental approaches to cell biology: Recent advances in methodologies for cell biology.
5.Cellular processes: mitosis and apoptosis.
6.Tissue maintenance and renewal: Concept of tissue homeostasis, molecular control of development.

Learning Activities

Lectures and seminars.

Notes

The module provides a detailed view of aspects of biochemistry and cell biology under the collective term of Molecular Bioscience. Mathematical procedures and chemical formulae are used but not extensively. A formative assessment will be included, linked to a summative assessment of learning outcome 1 with students being encouraged to fully engage. The exam at 50 % of the total assessment possesses a seen question which can be prepared prior to the exam.