Liverpool John Moores University

Title:	Basic Biochemistry
Status:	Definitive
Code:	**4501YAUNUT** (127924)
Version Start Date:	01-08-2021
Owning School/Faculty:	Sport and Exercise Sciences
Teaching School/Faculty:	Yunnan Agricultural University

Team	Leader
Elizabeth Mahon	Y

Academic Level:	FHEQ4	**Credit Value:**	20	**Total Delivered Hours:**	90
Total Learning Hours:	200	**Private Study:**	110		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	56
Practical	32

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Exam - 2 hours Basic Biochemistry Theory	25	2
Portfolio	Portfolio	Portfolio of Basic Biochemistry Theory In Class Tests	25	
Practice	Practice	Practice - Practical Exam in Basic Biochemistry Experiments	15	2
Report	Report	Report - Practical Training in Basic Biochemistry Experiments	25	
Test	Test	Test of Preview and Operation in Basic Biochemistry Experiments	10	

Aims

This module covers the molecular structure and function of organisms. It aims to help students understand the mechanisms of metabolic regulation. This module also introduces students to the theory of basic biochemistry experiments and focuses on developing experimental techniques.

Learning Outcomes

After completing the module the student should be able to:

1	Demonstrate an understanding of fundamental biochemical principles, such as the structure/function of biomolecules, metabolic pathways, and the regulation of biological/biochemical processes.
2	Attain the theory and operation of basic experimental techniques in biochemistry
3	Communicate biochemical concepts and experimental results through effective written communication

Learning Outcomes of Assessments

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

Exam - Theory	1
Portfolio of In class tests	1
Experimental Practical Exam	2
Practical Training Report	3
Test of Practice	2

Outline Syllabus

This module covers:
Nucleic acid chemistry; protein chemistry; enzymes; carbohydrate metabolism; biological oxidation and oxidative phosphorylation; lipid metabolism; protein enzymatic degradation and amino acid metabolism; nucleic acid enzymatic degradation and nucleotide metabolism; nucleic acid biosynthesis; protein biosynthesis; and metabolic regulation.

Students will also carry out experiments in areas such as: yeast RNA extraction and identification; polyacrylamide gel disc electrophoresis separation; thin-layer chromatography; catalase activity determination; and the determination of nitrate content.

Learning Activities

Students will take part in lectures and laboratory practical sessions. The practical portion of the module is based upon experimental technology teaching alongside skills training.

Notes

This module provides students with an understanding of developments in biotechnology and principles and application in biochemistry. Students will also develop basic practical skills in biochemistry/biotechnology.