

## Module Information

2022.01, Approved

### Summary Information

Module Code	4502ICBTBE
Formal Module Title	Biomolecular Structure and Analysis
Owning School	Pharmacy & Biomolecular Sciences
Career	Undergraduate
Credits	15
Academic level	FHEQ Level 4
Grading Schema	40

### Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

### Partner Teaching Institution

Institution Name
International College of Business and Technology

### Learning Methods

Learning Method Type	Hours
Lecture	45
Practical	9
Tutorial	6

### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-PAR	PAR	January	12 Weeks

## Aims and Outcomes

Aims	To enable learners to apply chemical principles to develop knowledge and understanding of the structure and classification of amino acids, monosaccharides, mononucleotides and fatty acids; optical isomerism in amino acids and monosaccharides and its significance; $\alpha$ and $\beta$ anomeric forms of monosaccharides. Also to apply knowledge of building block molecules to derive the detailed structures of proteins, polysaccharides, nucleic acids and lipids and relate the structures to biological function – globular and fibrous proteins, enzymes and active sites, storage and structural polysaccharides, RNA/DNA and role in protein biosynthesis, storage and membrane lipids.
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**After completing the module the student should be able to:**

### Learning Outcomes

Code	Number	Description
MLO1	1	Apply chemical principles to the structure of biological building block molecules and their properties.
MLO2	2	Use building block molecules to derive the structure of biological macromolecules and relate macromolecular structure to biological function.
MLO3	3	Describe the properties, relationship between structure and function of enzymes, active sites, and enzyme inhibitions.
MLO4	4	Acquire a range of biochemical practical skills and cognate techniques.

## Module Content

Outline Syllabus	Biological building block molecules: Monosaccharides, aldoses and ketoses, amino acids, nucleosides and nucleotides, fatty acids. Structure of biological macromolecules: Polysaccharides, protein structure, enzymes, nucleic acids, phospholipids. Biochemical practical skills and cognate techniques: Protein separation and determination of unknown concentrations of biological molecules.
Module Overview	
Additional Information	Learners will need access to appropriate laboratory, library and IT facilities and tutorials.

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Exam	Formal written exam	70	2	MLO1, MLO2, MLO3
Report	Practical report	30	0	MLO4

## Module Contacts

### Module Leader

Contact Name	Applies to all offerings	Offerings
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Alison Cotgrave	Yes	N/A
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**Partner Module Team**

Contact Name	Applies to all offerings	Offerings
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