

Module Information

2022.01, Approved

Summary Information

Module Code	3402FNDSCI
Formal Module Title	Introductory Chemistry and Cell Biology
Owning School	Pharmacy & Biomolecular Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 3
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Biological and Environmental Sciences
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	34
Online	7
Practical	6
Workshop	11

Module Offering(s)

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

Aims and Outcomes

Aims	This module aims to provide students with an overview of key concepts in both biology and chemistry in preparation for degree-level study. Atomic theory will be introduced and used to understand concepts of chemical bonding and reactivity. The structure of living systems will be discussed in terms of biologically-relevant molecules, cells, and subcellular organelles. Associated practical work will examine some rudimentary chemical and biological systems with an emphasis on drawing appropriate conclusions from observation.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Use laboratory data to draw appropriate conclusions.
MLO2	2	Recount the basic structures and functions of cells and subcellular organelles.
MLO3	3	Apply atomic theory to interpret some properties of matter.
MLO4	4	Describe the relationship between proteins, DNA and inheritance.
MLO5	5	Describe the structure of matter in terms of atomic theory.

Module Content

Outline Syllabus	Atomic theory, including electron sublevels and the evidence for these. Molecular bonding, covalent, ionic, dative covalent and the Octet Rule. Moles and molarity. Relative atomic mass and its determination using a simple mass spectrometer. Structure and behaviour of gases, liquids and solids. Intermolecular forces. Origin of acid and base behaviour. Shapes of molecules. Cells, structure and function. The role of cell organelles including mitochondria and chloroplasts. Protein structure and function. Enzymes and their roles. Structure and function of DNA. Basic genetics and inheritance. The ATP cycle and typical metabolic pathways.
Module Overview	This module aims to provide you with an overview of key concepts in both biology and chemistry in preparation for degree-level study. Atomic theory will be introduced and used to understand concepts of chemical bonding and reactivity. The structure of living systems will be discussed in terms of biologically-relevant molecules, cells and subcellular organelles.
Additional Information	A core module for all Level 3 students on PBS (not MPharm) programmes with a foundation year.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	MCQ Exam	50	1.5	MLO5, MLO3, MLO2, MLO4, MLO1
Test	Online practical test	50	0	MLO1

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings

Philip Denton	Yes	N/A
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Partner Module Team

Contact Name	Applies to all offerings	Offerings
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