

## Liverpool John Moores University

Title: INTRODUCTORY CHEMISTRY AND CELL BIOLOGY  
Status: Definitive  
Code: **3402FNDS**CI (121968)  
Version Start Date: 01-08-2021

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

Team	Leader
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**Academic Level:** FHEQ3      **Credit Value:** 20      **Total Delivered Hours:** 59.5

**Total Learning Hours:** 200      **Private Study:** 140.5

### Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	34
Online	7
Practical	6
Workshop	11

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Exam	50	1.5
Test	Onlinetest	Post-practical online test	50	

### 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.*

## **Learning Outcomes**

After completing the module the student should be able to:

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

## **Learning Outcomes of Assessments**

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

MCQ Exam	5	3	2	4	1
Online practical test	1				

## **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.*

## **Learning Activities**

Lectures supported by workshops, online material and practical work.

## **Notes**

A core module for all Level 3 students on PBS (not MPharm) programmes with a foundation year.

