

Liverpool John Moores University

Title: Chemistry 2
Status: Definitive
Code: **3517IFESG** (124189)
Version Start Date: 01-08-2021

Owning School/Faculty: Engineering
Teaching School/Faculty: Study Group

Team	Leader
Jack Mullett	Y

Academic Level: FHEQ3
Credit Value: 20
Total Delivered Hours: 79.5
Total Learning Hours: 200
Private Study: 120.5

Delivery Options

Course typically offered: Semester 2 and Summer

Component	Contact Hours
Lecture	39
Practical	12
Seminar	15
Workshop	12

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	50	1.5
Report	AS2	Report (1,000 words) following practical experiences in the lab	50	

Aims

To provide students with an understanding of the core concepts of chemistry. This will include physical, inorganic and organic chemistry, with an overview of contemporary science.

Learning Outcomes

After completing the module the student should be able to:

- 1 Apply chemical concepts to practical tasks.
- 2 Demonstrate good understanding of fundamental facts, major concepts and theories associated with chemistry.
- 3 Communicate clearly ideas, concepts and numerical information via appropriate means.

Learning Outcomes of Assessments

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

Examination	2	3	
Report	1	2	3

Outline Syllabus

Acids and bases – pH, buffers, calculating pH

Thermodynamics – basic energetics, enthalpy, entropy, Gibbs free energy

Redox – oxidation and reduction, half reactions, redox potential

More Organic Chemistry - addition, substitution, elimination, free radicals, enzyme catalysis

Metals – extraction and recycling

Weighing, measuring, titrations and chromatography

Transition metal chemistry

Presentation of chemical data

Learning Activities

Lectures and seminars will be used to consolidate knowledge of Chemistry and its application. Workshops and practicals will provide an opportunity for students to experience laboratory activities. The presentation of facts and data will be a theme throughout the learning and teaching. Students will undertake practical activities in LJMU laboratories over a four week period.

Notes

This module develops the core concepts introduced in semester one and includes some practical chemistry.