

### Summary Information

<b>Module Code</b>	3524IFESG
<b>Formal Module Title</b>	Chemistry 1
<b>Owning School</b>	Engineering
<b>Career</b>	Undergraduate
<b>Credits</b>	20
<b>Academic level</b>	FHEQ Level 3
<b>Grading Schema</b>	40

### Module Contacts

#### Module Leader

Contact Name	Applies to all offerings	Offerings
Lonnie Radioff	Yes	N/A

#### Module Team Member

Contact Name	Applies to all offerings	Offerings
Melissa Russell	Yes	N/A

#### Partner Module Team

Contact Name	Applies to all offerings	Offerings
--------------	--------------------------	-----------

### Teaching Responsibility

<b>LJMU Schools involved in Delivery</b>
LJMU Partner Taught

## Partner Teaching Institution

Institution Name
Study Group

## Learning Methods

Learning Method Type	Hours
Lecture	26
Seminar	39

## Module Offering(s)

Offering Code	Location	Start Month	Duration
JAN-PAR	PAR	January	12 Weeks
SEP-PAR	PAR	September	12 Weeks

## Aims and Outcomes

<b>Aims</b>	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. Laboratory work is included to introduce students to the skills needed to function in a UK based laboratory.
-------------	--

## Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Understand methods Used in Analytical Chemistry.
MLO2	Solve quantitative problems (stoichiometric) involving chemical formulas and equations, including being able to balance chemical equations.
MLO3	Understand how an Electrochemical Cell works, explain atomic structure and interactions between molecules.

## Module Content

### Outline Syllabus

Atomic structure and bonding – elements, atoms, electrons, bonding (covalent, coordinate, polar, ionic), shapes of molecules, periodicity. Numbers – moles and molarity, molecular mass, units, dilutions, percent composition. Introduction to organic chemistry – carbon, nomenclature, stereochemistry, basic functional group chemistry and Isomerism - optical, geometric. Kinetics – rate equations, reaction mechanisms, rate limiting step, activation energy, equilibrium, free energy.

### Module Overview

### Additional Information

### Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Exam	Examination	60	1.5	MLO2, MLO3, MLO1
Report	Laboratory experiments	40	0	MLO3