

## Liverpool John Moores University

Title: STRUCTURE AND ANALYSIS  
Status: Definitive  
Code: **5005APCHEM** (121133)  
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:** FHEQ5      **Credit Value:** 20      **Total Delivered Hours:** 54  
**Total Learning Hours:** 200      **Private Study:** 146

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	50
Tutorial	2

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Exam - needs to be timetabled with 5005PHASCI (as the modules are co-taught)	60	2
Report	Report	Report	40	

### Aims

*To develop knowledge, practical experience and the interpretation skills necessary*

*for the quantitative and qualitative analysis of chemical species relevant to chemical industries. This module will also introduce the concepts of molecular modelling and computational analysis*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Evaluate the quality of analytical data produced by analytical methods
- 2 Demonstrate an understanding of the principles and applications of spectroscopic and chromatographic techniques, together with their advantages and limitations
- 3 Demonstrate an understanding of problem solving skills related to analytical techniques applied to hands-on, real world, examples
- 4 Should be able to utilise group theory and molecular symmetry
- 5 Demonstrate an understanding of industrial inorganic chemistry

## **Learning Outcomes of Assessments**

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

Examination	1	2	3	4	5
Report	1	2	3		

## **Outline Syllabus**

*This module covers a number of key topics including:*

- *Chromatographic principles and application of instrumental chromatography techniques*
- *Function and instrumentation of gas chromatography*
- *Function and instrumentation of high performance liquid chromatography*
- *Introduction to the instrumentation of mass spectrometry for use in GC/LC -MS*
- *Principles and applications of atomic spectroscopy*
- *Sample preparation techniques*
- *Industrial inorganic chemistry*
- *Symmetry and group theory and molecular modelling*

## **Learning Activities**

Lectures and tutorials

## **Notes**

A module designed to outline analytical chemistry, molecular modelling and inorganic industrial chemistry