

## Liverpool John Moores University

Title: PRACTICAL LABORATORIES 5  
Status: Definitive  
Code: **6003APCHEM** (121137)  
Version Start Date: 01-08-2021

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

Team	Leader
Steve Enoch	Y
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Mark Wainwright	

**Academic Level:** FHEQ6      **Credit Value:** 20      **Total Delivered Hours:** 40  
**Total Learning Hours:** 200      **Private Study:** 160

### Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Practical	40

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Report	Lab report	50	
Test	Exam	Online Test	50	

### Aims

*This course builds on skills attained in Levels 4 and 5 and deals with the synthesis and analysis of monomeric and polymeric organic and inorganic materials, including relevant examples from the modern chemical and allied industries. Advanced chromatographic techniques, including tandem approaches, spectroscopy and spectrometry will be employed for analysis of the materials produced in the*

*laboratory. Assessment will be via a lab report and an oral presentation.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Synthesise polymeric materials using modern chemical techniques.
- 2 Evaluate and explain simple secondary physical behaviour in synthesised materials.
- 3 Analyse polymeric and inorganic materials using modern chemical and instrumental techniques.
- 4 Present information orally, using electronic media.

## **Learning Outcomes of Assessments**

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

Lab report	1	2	3	4
Exam	1	2	3	4

## **Outline Syllabus**

*Modern approaches to materials chemistry; advanced polymers; coatings and layers; fabrication of thin films by self-assembly; supramolecular materials; exploration of peptide self-assembly; biomimetic materials; nanotechnology; advanced atomic spectroscopy; tandem techniques; advanced structural elucidation; organo-transition metal chemistry; polymer rheology; advanced crystallisation.*

## **Learning Activities**

Laboratory classes in Organic, Inorganic and polymer synthesis and analysis

## **Notes**

The course provides an integrated chemistry approach to materials synthesis and analysis.