

## Liverpool John Moores University

Title: PHYSICOCHEMICAL PROPERTIES OF THERAPEUTIC AGENTS  
Status: Definitive  
Code: **7003PHASCI** (120447)  
Version Start Date: 01-08-2015

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

Team	Leader
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**Academic Level:** FHEQ7      **Credit Value:** 20.00      **Total Delivered Hours:** 43.00  
**Total Learning Hours:** 200      **Private Study:** 157

### Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	13.000
Practical	21.000
Workshop	7.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam		60.0	2.00
Report	Report	An extended report based on a laboratory investigation and interpretation of data	40.0	

### Aims

*To understand the physical and chemical properties of both small molecules and macromolecules and how these influence their in vitro and in vivo behaviour as active pharmaceutical ingredients.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Demonstrate expertise in applying specialised techniques to determine the physicochemical properties active pharmaceutical ingredients
- 2 Display mastery of interpreting complex information and data generated from specialised techniques to determine the physicochemical properties of active pharmaceutical ingredients

## **Learning Outcomes of Assessments**

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

Examination	1
Practical Report	2

## **Outline Syllabus**

*Solubility*

*Permeability*

*Stability*

*Thermal analysis*

*Crystallinity/Polymorphism*

*Particle size/morphology*

*Preformulation techniques: UV, IR, XRD, TGA, DSC, Particle Sizing, SEM, ELISA, Western Blot assay*

## **Learning Activities**

Lectures introducing each topic within the module

Practical sessions giving students first-hand experience of relevant techniques

Workshops to support analysis of data generated during practical sessions

## **Notes**

Course notes Available on Blackboard