

Liverpool John Moores University

Title: FORMULATION SCIENCE
Status: Definitive
Code: **4004PHASCI** (122590)
Version Start Date: 01-08-2021

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

Team	Leader
Raida Al Kassas	Y
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Academic Level: FHEQ4 **Credit Value:** 20 **Total Delivered Hours:** 68

Total Learning Hours: 200 **Private Study:** 132

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	33
Practical	18
Workshop	15

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Presentation	CW	Group Presentation	40	
Exam	Exam	Written Examination	60	2

Aims

To understand the physicochemical properties of active ingredients and to introduce

the basic principles of pharmaceutical and cosmetic formulations.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate knowledge of the physicochemical properties of active ingredients and the techniques used to measure these.
- 2 Demonstrate an understanding of different formulations, their routes of delivery and packaging requirements to ensure stability

Learning Outcomes of Assessments

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

Coursework	1	2
Exam	1	2

Outline Syllabus

Introduction to dosage forms and routes of delivery.

Liquid formulations, topical preparations, emulsions, foams and suspensions.

Viscometry and Rheology.

Preformulation studies, salt formation, intrinsic dissolution rate.

Stability and stability testing.

Crystallisation, polymorphism, thermal analysis.

Particle size analysis, milling, mixing, powder flow.

Packaging.

Learning Activities

Lectures to cover fundamental theory and concepts.

Laboratory-based practicals to apply principles and provide first-hand experience of key experimental techniques.

Workshops to support group work for coursework assessment, problem-based learning activities and revision of topics.

Notes

This module will build on the basic principles of physical chemistry introduced in module 4001PHASCI and develop the understanding of pharmaceutical and cosmetic formulations.