

Liverpool John Moores University

Title: PHYSICAL PROPERTIES
Status: Definitive
Code: **4001PHASCI** (122587)
Version Start Date: 01-08-2021

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

| Team | Leader |
|-----------------|--------|
| Matthew Roberts | Y |
| Raida Al Kassas | |
| Touraj Ehtezazi | |
| Barry Nicholls | |
| Judith Madden | |
| Philip Denton | |

Academic Level: FHEQ4 **Credit Value:** 20 **Total Delivered Hours:** 72
Total Learning Hours: 200 **Private Study:** 128

Delivery Options

Course typically offered: Semester 1

| Component | Contact Hours |
|-----------|---------------|
| Lecture | 36 |
| Practical | 12 |
| Workshop | 22 |

Grading Basis: 40 %

Assessment Details

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|----------|-------------------|-------------|---------------|---------------|
| Report | CW | Lab Report | 40 | |
| Exam | Exam | Exam | 60 | 2 |

Aims

To introduce the basic principles of physical chemistry as they relate to the

formulation of pharmaceutical and cosmetic products.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate understanding of key concepts in physical chemistry and their application to pharmaceutical and cosmetic science
- 2 Analyse and interpret data obtained from key practical experiments

Learning Outcomes of Assessments

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

| | |
|------------|---|
| Lab report | 2 |
| Exam | 1 |

Outline Syllabus

Physical and chemical properties of matter and the three states

Solubility, permeability and partitioning

Thermodynamics, acids and bases pH and pKa

Surface and interfacial phenomena.

Introduction to kinetics

Phase diagrams

Learning Activities

Lectures - covering the fundamental physicochemical principles

Practicals - laboratory based application of theoretical concepts

Workshops - group based activities, development of key study skills, problem-solving and experimental data analysis

Notes

The module introduces students to fundamental physicochemical properties relevant to the study of pharmaceutical and cosmetic science.