

Liverpool John Moores University

Title: PHARMACEUTICAL FORMULATION
Status: Definitive
Code: **5001PHASCI** (122593)
Version Start Date: 01-08-2019

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:** 51
Total Learning Hours: 200 **Private Study:** 149

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	32
Practical	13
Workshop	4

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Lab Report	Laboratory report	40	
Exam	Exam	Exam	60	2

Aims

Knowledge, understanding and application of the formulation of dosage forms; including the solid oral dosage forms of tablets and capsules, pulmonary, nasal,

transdermal, vaginal, rectal, semi-solid, controlled release oral drug delivery systems. Introduction to micro- and nanocarrier delivery systems

Learning Outcomes

After completing the module the student should be able to:

- 1 Evaluate the concepts of formulating, producing and testing solid oral dosage forms
- 2 Demonstrate an understanding of oral bioavailability, the use of modified-release drug delivery systems and micro- and nano-carrier delivery systems
- 3 Evaluate the formulation and use of pulmonary, nasal, transdermal, vaginal, and rectal drug delivery systems

Learning Outcomes of Assessments

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

Laboratory Tablets	1	3	
Report			
Exam	2	1	3

Outline Syllabus

Formulation, and manufacture of non-sterile dosage forms

Delivery of small molecule drugs

Particle size reduction, powder mixing, granulation, and drying

Formulation, manufacture and testing of solid oral dosage forms (tablets and capsules)

Formulation and mechanisms of modified-release oral dosage forms in controlling bioavailability

Pulmonary, nasal, transdermal, vaginal and rectal drug delivery systems

Formulation and properties of semi-solid pharmaceutical products

Micro- and nanocarrier delivery systems

Learning Activities

Lectures covering each topic within the module

Practical sessions related to powder flow, capsules, pulmonary dosage forms and tablet formulation, manufacture and testing

Revision workshop to support the lecture material and practical sessions

Notes

This module introduces the student to the formulation, manufacture and testing of solid oral pharmaceutical dosage form (tablets and capsules) as well as the development of oral modified release dosage forms. The study of powder properties

and the unit processes of mixing, drying and granulation with respect to pharmaceutical powders is also completed. This module also introduces the student to nasal, pulmonary, transdermal, vaginal and rectal drug delivery systems. The concepts of micro- and nanocarrier delivery systems are also introduced.

Practical sessions will complement lecture material and provide students with hands-on experience of formulation, manufacture and testing of tablets, powder flow characteristics, powder formulations using capsules and inhaled drug formulations.

Exam will assess students understanding, knowledge and applications of the various dosage forms