

Liverpool John Moores University

Title: ADVANCED DELIVERY SYSTEMS
Status: Definitive
Code: **6003PHASCI** (122602)
Version Start Date: 01-08-2019

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

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Academic Level: FHEQ6 **Credit Value:** 20 **Total Delivered Hours:** 57

Total Learning Hours: 200 **Private Study:** 143

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	25
Practical	12
Workshop	18

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	prac rpt	practical report	40	
Exam	exam	exam	60	2

Aims

To present and illustrate methods for the formulation and application of advanced

drug delivery systems.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate an understanding of the design, formulation and evaluation of a variety of drug delivery systems.
- 2 Formulate and evaluate a pharmaceutical delivery system.
- 3 Review and appraise the application of techniques in the current literature

Learning Outcomes of Assessments

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

Practical Report	2	3
exam	1	3

Outline Syllabus

*Material will be delivered within a number of specified drug delivery topics, which may be subject to change depending on current staff expertise and will focus on topical delivery systems of current interest. Potential topics include;
The preparation and evaluation of polymeric micro and nano-particle drug delivery systems*

Lipid based drug delivery systems; emulsification, liposomes, nanostructured lipid carriers

Targeted drug delivery

Advanced crystal growth techniques and the characterisation of solid state properties.

Antimicrobial drug delivery

The delivery of biopharmaceuticals

Particle engineering

Pharmaceutical approaches to inform inhaled drug delivery

Practical: Group project to formulate and evaluate an assigned API within a delivery system

Learning Activities

Lectures covering the different topics within the module

Practical sessions giving students first-hand experience of relevant formulation principles

Workshops to support each of the topics, literature review, experimental design and analysis of data generated during practical sessions

Notes

Practical sessions will involve students developing hands-on experience of formulating, producing and evaluating advanced drug delivery systems such as liposomes, micro/nano particles, clays and polymeric films.

Exam will assess students understanding of the principles through data interpretation and problem solving questions