Module Definition Form (MDF)

Module code: MOD005387	**Version:** 1 **Date Amended:** 21/Apr/2016

1. Module Title
Advanced Pharmaceutics

2a. Module Leader
Irfan Bashir

2b. School
School of Allied Health and Social Care

2c. Faculty
Faculty of Health, Medicine and Social Care

3a. Level
7

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

5. Restrictions

Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:			

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module aims to equip students with the comprehensive knowledge, practical skills and intellectual rigour required to critically assess the design, formulation process and use of dosage form. This includes the ability to establish the biopharmaceutical and physicochemical principles important in the design and formulation of dosage forms and drug delivery systems. Theoretical and practical aspects of formulation of solid, semi-solid and liquid dosage forms will be comprehensively covered. In the practical sessions, student will be requested to investigate pharmaceutics-related problems, encouraged to generate new data and critically discuss their findings compared to pharmaceutical literature.

In addition to the traditional dosage drug dosage forms, advanced drug delivery approaches/systems such as vesicular carriers, dendrimers, solid lipid nanoparticles, carbon nanotubes, nanoemulsions and microspheres will be also covered. The use of biodegradable polymers in various drug delivery applications will be discussed. This module will also enable students to develop their understanding of physicochemical interactions and incompatibilities. This knowledge will aid the development of practical decision making for effective medicine and the development of appropriate analytical techniques and methods to assess dosage form stability and drug release profile.

This module will be delivered by specialists in drug delivery to ensure the best current literature is promoted and adequate coverage of key knowledge in the discipline is achieved. Students will be required to make links with their own science base and build upon experiential knowledge, as well as links to current study cases, thus promoting independent learning. Key knowledge in the discipline is universal and so is relevant to both home and international students, and acquisition of this knowledge will directly enhance student's employability.

6b. Outline Content

Drug dosage form and drug delivery system design

Solid dosage forms

Semisolid dosage forms and transdermal systems

Liquid dosage forms

Disperse systems

Sterile dosage forms and delivery systems

Novel, and advanced dosage forms, delivery systems, and devices

Biodegradable polymers in various drug delivery applications

6c. Key Texts/Literature

The reading list to support this module is available at: https://readinglists.aru.ac.uk/

6d. Specialist Learning Resources

High-fidelity simulation centre at Postgraduate Medical Institute, Anglia Ruskin University

7. Learning Outcomes (threshold standards)		
No.	**Type**	**On successful completion of this module the student will be expected to be able to:**
1	Knowledge and Understanding	Critically analyse the principles and processes of medicines design and formulation
2	Knowledge and Understanding	Critically assess the interrelationships between formulation, drug delivery and therapeutic effectiveness
3	Knowledge and Understanding	Critically evaluate novel approaches to the delivery of drugs by different routes and discuss the rationale underlying the methods
4	Intellectual, practical, affective and transferrable skills	Apply standard laboratory procedures in pharmaceutical preparation, analysis and presentation of pharmaceutical results
5	Intellectual, practical, affective and transferrable skills	Demonstrate and audit the safe handling of chemical and pharmaceutical materials and undertake risk assessment of pharmaceutical procedures and practices

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2026/7	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	**Hours**	**Learning Outcomes**	**Details of Duration, frequency and other comments**
Lectures	24	1-5	3 hours per week (8 weeks) combining lectures and seminars
Other teacher managed learning	36	1-5	5 x 4 hours laboratory session 4 x 4 hours workshops. Opportunity for formative assessment during course delivery
Student managed learning	240	1-5	Guided study engaging in collaborative online learning activities (VLE) which is student managed and resource-based
TOTAL:	300		

9. Assessment for the above Module Occurrence

The assessment for some modules includes a presentation (see below for details on how this particular module is assessed). We recognise that presenting, especially to a large group, can cause significant anxiety or distress for some students. If this may affect you, please contact your Module Leader or the Disability and Neurodiversity Service as early as possible. We will work with you to consider appropriate reasonable adjustments. Depending on your individual needs, these might include, for example, presenting to a smaller group or presenting only to a member of academic staff.

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Examination Chelmsford		50 (%)	Fine Grade	40 (%)
MCQ + SAQ, 2000 words equivalent (2 hours Exam)					

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Coursework		50 (%)	Fine Grade	40 (%)
3000 words equivalent lab report in a format of manuscript for publication supported with supplementary data and results					

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:
(a) achieve the qualifying mark for each element of fine graded assessment as specified above
(b) pass any pass/fail elements

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]