Liverpool John Moores University

Title:	DOSAGE FORM DESIGN
Status:	Definitive but changes made
Code:	**6003DFPHAR** (113298)
Version Start Date:	01-08-2017
Owning School/Faculty:	Pharmacy & Biomolecular Sciences
Teaching School/Faculty:	Pharmacy & Biomolecular Sciences

Team	Leader
Imran Saleem	Y
Matthew Roberts	

Academic Level:	FHEQ6	**Credit Value:**	12	**Total Delivered Hours:**	38
Total Learning Hours:	120	**Private Study:**	82		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	26
Practical	8
Workshop	2

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	EXAM	80	2
Practice	AS3	assignment	20	

Aims

To illustrate powder properties and technology.
To demonstrate the use of powder technology, powder flow, mixing, drying and granulation techniques.
To review this technology in the formulation and development of hard gelatin capsules.

To demonstrate the formulation and development of soft gelatin capsules. [soft gels].
To review tablet formulation and compression and excipient compatibility..
To illustrate the behaviour of the GIT in relation to [a] oral therapy and the impact of bioavailability and bioequivalence and [b] the design of suitable in vitro tests and in particular dissolution test methodology.
To present the development of controlled release products., matrices, multiparticulates, micro-nanoencapsulation.
To review the formulation and development of other more specialised dosage forms e.g. sublingual, effervescent, fast dissolving/disintegrating tablets, transdermal, nasal & inhalation preparations.
Gene delivery-current work relating to delivery of therapeutic DNA to target cells.

Learning Outcomes

After completing the module the student should be able to:

1	Critically evaluate and review the clinical and pharmaceutical applications of solid oral dosage forms
2	Critically evaluate novel drug delivery including gene, pulmonary, transdermal and wound healing
3	Apply powder technology to the development, manufacture and compendial testing of tablets

Learning Outcomes of Assessments

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

EXAM	1	2	3
mini-project	1	3	

Outline Syllabus

Capsules: Types, formulation, processing, hard and soft gelatin, filling, machines, defects, standards.
Tablets: Types, formulation, granulation, processing, coating, machines, defects, standards. GIT, bioavailability and dissolution. Controlled release, matrix, multiparticulates, microencapsulation.
Transdermal preparations: Skin and wound dressings, transdermal delivery.
Inhalation & Nasal delivery: formulation, design, construction and use.
Gene Delivery: barriers to gene delivery, non-viral & viral delivery systems

Learning Activities

Problem solving. Data manipulation. Interpretation exercises.
Essay/Report writing
Presentation: Preparation of quality control documents, interactive small group learning

Notes

Traditionally, the subject was taught under the collective title of Pharmaceutics and not surprisingly, the books listed are highly recommended to supplement lectures, practical's and workshops which are the formal taught components of the module. This module deals with the development of the most important, non-sterile dosage forms, which you will encounter in your professional career, in particular, solid dosage form technology embracing tablets and capsules, plus other drug delivery systems including gene, pulmonary, transdermal and wound healing.