Jordan University of Science and Technology

Faculty of Pharmacy

Doctor Of Pharmacy (Pharm D.) Department

PHMD551 Pharmaceutics 4 (For Pharm D Students) - JNQF Level: 7

First Semester 2023-2024

Course Catalog
1 Credit Hours. This course is designed to provide the students with an insight to the recent advances in the art and science of controlled drug delivery and to assess the prospects and directions of future developments. The course will cover: (1)The fundamentals and principles of drug delivery, (2) The strategies and materials used in controlled drug delivery, (3) The evaluation and characterization of such delivery systems.

Text Book	
Title	Drug Delivery and Targeting for pharmacists and pharmaceutical scientists
Author(s)	Anya M. Hillery, Andrew W. Lloyd; and James Swarbrick
Edition	2nd Edition
Short Name	Ref #1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Pharmaceutical Dosage Forms and Drug Delivery Systems	Loyd V. Allen, Jr. and Howard C. Ansel	10th Edition	

Instructor	
Name	**Dr. Mohammad Alsaggar**
Office Location	P2 L-0
Office Hours	
Email	mhalsaggar@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun : 13:30 - 14:30 Room: P1103 Section 2: Lecture Time: Thu : 10:30 - 11:30 Room: P1103 Section 3: Lecture Time: Thu : 11:30 - 12:30 Room: SOUTH HALL

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Weeks 1, 2, 3, 4	Fundamentals of controlled delivery systems: Introduction -Rational of controlled delivery dosage forms -Advantages & limitations of controlled delivery dosage forms -Technologies of controlled delivery dosage forms -Approaches of controlled delivery dosage forms -Some potential applications of controlled dosage forms	**Ch 3** From **Ref #1**, **Ch 9** From **Ref #2**

Week 5	Factors influencing the design and performance of controlled delivery systems: Physicochemical and biological properties of drugs - Routes of administration	**Ch 3** From **Ref #1**, **Ch 23** From **Ref #2**
Week 6	Controlled delivery systems for parenteral drug delivery	**Ch 5** From **Ref #1**, **Ch 20 & 23** From **Ref #2**
Week 7	Controlled delivery systems for Oral drug delivery	**Ch 6** From **Ref #1**, **Ch 9 & 20** From **Ref #2**
Weeks 8, 9	Controlled delivery systems for buccal & sublingual drug delivery	**Ch 7** From **Ref #1**
Weeks 10, 11	Controlled delivery systems for Transdermal drug delivery	**Ch 8** From **Ref #1**, **Ch 11** From **Ref #2**
Weeks 12, 13, 14	Controlled delivery systems for Nasal drug delivery	**Ch 9** From **Ref #1**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Discuss the fundamentals, principles and factors affecting the design of controlled drug delivery [50PLO1.1] [40L7K1]	30%	
Assess parenteral and oral controlled drug delivery in terms of advantages, limitations, and applications. [10PLO3.1] [25L7S1]	10%	
Design transmucosal controlled drug delivery (buccal and sublingual) in terms of advantages, limitations, materials, applications?.etc. [10PLO3.1, 25PLO5.1] [20L7S3, 20L7C4]	24%	
Design transdermal controlled drug delivery in terms of advantages, limitations, materials, applications?.etc. [10PLO3.1, 25PLO5.1] [20L7S3, 20L7C4]	16%	
Design nasal controlled drug delivery in terms of advantages, limitations, materials, applications?.etc. [10PLO3.1, 25PLO5.1] [20L7S3, 20L7C4]	20%	

Relationship to Program Student Outcomes (Out of 100%)															
PLO1.1	PLO2.1	PLO2.2	PLO2.3	PLO2.4	PLO3.1	PLO3.2	PLO3.3	PLO3.4	PLO3.5	PLO3.6	PLO4.1	PLO4.2	PLO4.3	PLO4.4	PLO5.1
30					27.14										42.86

Relationship to NQF Outcomes (Out of 100%)			
L7K1	L7S1	L7S3	L7C4
30	10	30	30

Evaluation	
Assessment Tool	**Weight**
Mid exam	40%
Final exam	50%
Quizzes	10%

Policy	
Exam	- All exams are closed books and notes. - The final exam is comprehensive (covers all the material). - The midterm incomplete exam needs approval from the department heads. - The final incomplete exam needs approval from the vice dean.

Active learning and students? participation	- Students are expected, and highly encouraged to actively participate in class discussions.
Drop Date	The last day of courses withdrawal (without reimbursement of tuition fees) is 12-1-2024.
Cheating	- The commitment of the acts of cheating and deceit such as copying during examinations, altering examinations for re-grade, plagiarism of homework assignments, and in any way representing the work of others as your own is dishonest and will not be tolerated. Standard JUST policy will be applied المادة 7: إذا ضُبط الطالب أثناء الامتحان أو الاختبار متلبساً بالغش فتوقع عليه العقوبات التالية مجتمعة: أ. اعتباره راسباً في ذلك الامتحان أو الاختبار. ب. الغاء تسجيله في بقية المساقات المسجل لها في ذلك الفصل. جـ. فصله من الجامعة لمدة فصل دراسي واحد، و هو الفصل التالي للفصل الذي ضبط فيه.
Attendance	- Attendance is mandatory and will be recorded regularly. - Excellent attendance is expected. - Students who miss more than 20% of the classes will be dropped from the course as per JUST policy. - If you miss class, it is your responsibility to find out about any announcements or assignments you may have missed.
Workload	- Average work-load student should expect to spend is 3 hours/week

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