



Jordan University of Science and Technology
Faculty of Pharmacy
Doctor Of Pharmacy (Pharm D.) Department

PHMD451 Pharmaceutics 3 (For Pharm D Students) - JNQF Level: 6

First Semester 2023-2024

Course Catalog

3 Credit Hours. This course introduces students to the basics of physicochemical principles such diffusion phenomena, drug release and dissolution, chemical kinetics and stability, micromeritics and pre-formulation. Based on the previous description, the course also deals with applications of these physicochemical principles in the design of powders and granules, tablets, coated tablets, hard and soft gelatin capsules and sustained release dosage forms.

Text Book

Title	Martin's Physical Pharmacy and Pharmaceutical Sciences
Author(s)	Patrick J. Sinko
Edition	7th Edition
Short Name	Reference #1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Reference #2	Pharmaceutical Dosage Forms and Drug Delivery Systems	Loyd V. Allen, Jr., Nicolas G. Popovich & Howard C. Ansel	11th Edition	
Reference #3	Lachman/ Lieberman's The Theory and Practice of Industrial Pharmacy	R K Khar; S P Vyas; Farhan J Ahmed; Gauravk Jalin.	4th Edition	

Instructor

Name	Prof. Bashar Altaani
Office Location	P2 L1
Office Hours	
Email	altaani@just.edu.jo

Class Schedule & Room

Section 1:
 Lecture Time: Sun, Tue, Thu : 10:30 - 11:30
 Room: PH2104

Section 2:
 Lecture Time: Mon, Wed : 08:30 - 10:00
 Room: PH2104

Tentative List of Topics Covered

Weeks	Topic	References
Weeks 1, 2, 3	Diffusion Phenomena, Drug Release & Dissolution	Chapters 11 and 13 From Reference #1
Week 4	Chemical Kinetics and Stability	Chapter 14 From Reference #1
Week 5	Micromeritics	Chapter 19 From Reference #1

Weeks 6, 7	Preformulation	Chapter 8 From Reference #3
Weeks 8, 9	Tablets	Chapter 8 From Reference #2
Week 10	Coated tablets	Chapter 8 From Reference #2
Week 11	Hard Gelatin Capsules	Chapter 7 From Reference #2
Week 12	Soft Gelatin Capsule	Chapter 7 From Reference #2
Weeks 13, 14	Sustained Release Dosage Forms	Chapter 9 From Reference #2

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Evaluate the release mechanism of a drug from a pharmaceutical dosage form [1PLO1.1] [1L6K1]	9%	
Select the suitable dissolution method for a pharmaceutical drug product including evaluation [1PLO1.1] [1L6K1]	8%	
Construct stability study for a pharmaceutical product including evaluation and calculation [1PLO1.1] [1L6K1]	8%	
Describe the micromeritics properties of a powder pharmaceutical substance. [1PLO5.1] [1L6K1, 1L6S3]	8%	
Perform pre-formulation study for a pharmaceutical drug substance. [1PLO5.1] [1L6C2]	8%	
Fabricate (formulation, manufacturing and quality control) solid pharmaceutical dosage forms (Tablet, Hard gelatin capsule and Soft gelatin capsule). [1PLO5.1] [1L6S3, 1L6C4]	50%	
Control the rate of drug release from pharmaceutical dosage forms to fabricate sustained release dosage form [1PLO3.1] [1L6S1, 1L6C4]	9%	

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
25					9										66

Relationship to NQF Outcomes (Out of 100%)				
L6K1	L6S1	L6S3	L6C2	L6C4
29	4.5	29	8	29.5

Evaluation	
Assessment Tool	Weight
First exam	25%
Second exam	30%
Active learning	5%
Final exam	40%

Policy	
Exams	<ul style="list-style-type: none"> - All exams are closed books and notes. - The final exam is comprehensive (covers all the material). - The first, second, and midterm incomplete exams need approval from the departments' heads. - The final incomplete exams need approval from the dean.
Cheating Prohibited	<p>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.</p> <p>المادة 7: إذا ضُبط الطالب أثناء الامتحان أو الاختبار متلبساً بالغش فتوقع عليه العقوبات التالية مجتمعة</p> <p>أ- اعتباره راسباً في ذلك الامتحان أو الاختبار</p> <p>ب- الغاء تسجيله في بقية المسابقات المسجل لها في ذلك الفصل</p> <p>ج- فصله من الجامعة لمدة فصل دراسي واحد، و هو الفصل التالي للفصل الذي ضبط فيه</p>
Attendance	<ul style="list-style-type: none"> - 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.

Active learning and students' participation	- Students are expected to actively participate in class discussions.
Withdraw	- The last day of courses withdrawal (without reimbursement of tuition fees) is as announce by the university

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