



Jordan University of Science and Technology
Faculty of Pharmacy
Pharmacy Department

PHAR353 Drug Compounding Lab 1 - JNQF Level: 7

First Semester 2024-2025

Course Catalog

1 Credit Hours. This course is designed to teach students how to prepare liquid formulations (solutions, suspensions and emulsions). In addition, pharmacy students will practice buffer preparation as well as determination of several significant physicochemical properties such as buffer capacity, solubility, dissociation constant, viscosity, surface tension and critical micelle concentration.

Teaching Method: On Campus

Text Book

Title	Martin's Physical Pharmacy and Pharmaceutical Sciences
Author(s)	Patrick J. Sinko
Edition	8th Edition
Short Name	Martin and Handouts
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ansel and Handouts	Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems	Lloyd V. Allen, Jr., Nicolas G. Popovich & Howard C. Ansel	11th Edition	

Instructor

Name	Mrs. Rawdah Alsheyab
Office Location	-
Office Hours	Sun : 10:00 - 12:00 Mon : 12:30 - 14:30 Wed : 10:00 - 12:00 Thu : 12:30 - 14:30
Email	rawda@just.edu.jo

Class Schedule & Room

Section 2:
Lecture Time: Sun : 12:30 - 14:30
Room: LAB

Section 3:
Lecture Time: Sun : 14:30 - 16:30
Room: LAB

Section 5:
Lecture Time: Mon : 10:30 - 12:30
Room: LAB

Section 7:
Lecture Time: Mon : 14:30 - 16:30
Room: LAB

Section 8:
Lecture Time: Tue : 08:30 - 10:30
Room: LAB

Section 9:
Lecture Time: Tue : 10:30 - 12:30
Room: LAB

Section 10:
Lecture Time: Tue : 12:30 - 14:30
Room: LAB

Section 11:
Lecture Time: Tue : 14:30 - 16:30
Room: LAB

Section 14:
Lecture Time: Wed : 12:30 - 14:30
Room: LAB

Section 15:
Lecture Time: Wed : 14:30 - 16:30
Room: LAB

Section 16:
Lecture Time: Thu : 08:30 - 10:30
Room: LAB

Section 17:
Lecture Time: Thu : 10:30 - 12:30
Room: LAB

Prerequisites		
Line Number	Course Name	Prerequisite Type
303512	PHAR351 Pharmaceutics 2	Pre./Con.

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Dispensing guidelines and compounding oral rehydration solution (ORS)	From Ansel and Handouts
Week 2	Preparation of buffers	From Martin and Handouts
Week 3	Capacity of buffer systems	From Martin and Handouts
Week 4	Compounding ear, nasal and ophthalmic solution drops	From Ansel and Handouts
Week 5	Solubility enhancement techniques	From Martin and Handouts
Week 6	Compounding oral solutions (elixir & linctus)	From Ansel and Handouts
Week 7	Viscosity measurement	From Martin and Handouts
Week 8	Phase diagrams of multicomponent systems	From Martin and Handouts
Week 9	Surfactants and critical micelle concentration	From Martin and Handouts
Week 10	Compounding pharmaceutical suspensions	From Martin and Handouts
Week 11	Compounding pharmaceutical emulsions	From Martin and Handouts

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Prepare liquid pharmaceutical dosage forms (solutions, suspensions, emulsions), with proper labelling [1PLO5.1] [1L7S3, 1L7C3]	40%	
Describe quantitatively the concentration and the activity of a solution using different units [1PLO1.1] [1L7K1]	5%	

Demonstrate the ability to conduct preformulation studies: determination of solubility, dissociation constant, viscosity, surface tension and critical micelle concentration [1PLO1.1][1L7K1, 1L7S2]	27%	
Apply the concepts of ionic equilibria in preparation and evaluation of buffer mixtures [1PLO1.1][1L7K1, 1L7S1]	18%	
Identify the number of phases associated with mixing partially miscible liquid phases [1PLO1.1][1L7K1, 1L7S2]	7%	
Identify the number of phases associated with mixing solid phases (eutectic mixture) [1PLO1.1][1L7K1, 1L7S2]	3%	

PLO1.1	PLO2.1	PLO3.2	PLO3.3	PLO2.2	PLO2.3	PLO2.4	PLO3.1	PLO3.4	PLO3.5	PLO3.6	PLO4.1	PLO4.2	PLO4.3	PLO4.4	PLO5.1	PLO-PT1.1	PLO-PT2.1	PLO-PT2.2	PLO-PT3.1
60															40				

Relationship to NQF Outcomes (Out of 100%)				
L7K1	L7S1	L7S2	L7S3	L7C3
32.5	9	18.5	20	20

Evaluation	
Assessment Tool	Weight
Midterm exam	20%
Quizzes	10%
Product evaluation	10%
Reports and Assignments	15%
Personal evaluation	5%
Final exam (practical)	20%
Final exam (theoretical)	20%

Policy	
Exams	All exams are closed books and notes. The final exam is comprehensive (covers all the material). The midterm incomplete exam needs approval from the departments? head. The final incomplete exam needs approval from the Dean.
Cheating	Prohibited; 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.
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.
Active learning and students' participation	Students are expected to actively participate in the lab.
Withdraw	The last day of practical courses withdrawal (without reimbursement of tuition fees) is January, 5th, 2024

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