



**Hashemite University**  
**Faculty of Pharmaceutical Sciences**  
**Department of Pharmaceutics and Pharmaceutical Technology**

Academic year: 2025-2026

Semester: Second

Course information	
Course Title	Physical Pharmacy Practical
Course Number	131701318
Credit Hours	One
Prerequisites	131701317 110103231

Instructor		
Name	Msc.Anwar Abu Alkahi (course coordinator)	Msc.Jiana Olimat
Office	464	
Office Phone	-----	
Office Hours	To be announced	
E-mail	<a href="mailto:anware@hu.edu.jo">anware@hu.edu.jo</a>	

### Course description

This physical pharmacy lab focuses on a number of areas of interest in the fields of pharmaceutical applications and principles of the physical pharmacy.

### Course objectives

Upon completion of this course, the student should be able to perform the following objectives at the specified level:

1. Develop skills and techniques related to the actual use of equipment and instruments.
2. Demonstrate the effect of the physico-chemical properties phenomena on pharmaceutical systems.
3. Clarify theoretical concepts learned in physical pharmacy theoretical courses.
4. Be able to interpret scientific data and represent the data graphically
5. Be able to present and discuss the results and conclusions orally

### Intended learning outcomes:

**Successful completion of this course should lead to the following learning outcomes :**

- Clearly understand the common concentration expression, and solve problems utilizing concentration expression..Student will be capable to do the procedures for the experiments by himself.
- Student will be capable to do the calculations and drawing related to the experiments and write the report in a clear manner.
- Student should be able to analyze and discuss the experimental results and get the conclusions.

References	
1	Sinko, P.J. Martin's Physical Pharmacy, 6 th edition, Lippincott Williams & Wilkins, 2011 (text book)
2	Florence A.T. and Attwood. D.. Physicochemical Principles of Pharmacy, 5th Edition. 2011. Published by Pharmaceutical Press, UK
3	Ma, J. K., & Hadzija, B. (2013). Basic physical pharmacy. Jones & Bartlett Publishers.
4	Dash, A.K., Singh, S. and Tolman, J. Pharmaceutics: Basic Principles and Application to Pharmacy Practice. Elsevier Academic Press, 2014

Topic	Date	Week	Topic Details	Estimated no. of hours	Assessment
1	2/26-2/22	1	Introduction and Safety rules	1 hour	-
2	3/5-3/1	2	Rheology	2 hour	Report Evaluation
3	3/12-3/8	3	Determination of partition coefficient	2 hour	Quiz Report Evaluation
4	15/3-19/3	4	Surface tension	2 hour	Quiz Report Evaluation
	3/22-3/20	5	<b>Eid al-Fitr Holiday</b>		
5	4/2-3/29	6	Preparation of buffers and effect of pH on drug solubility	2 hour	Report Evaluation
6	5/4-9/4	7	Solubility : Effect of surfactant	2 hour	Report Evaluation
7	4/16-4/12	8	Solubility : Effect of cosolvent / Effect of temperature	2 hour	Quiz Evaluation
8	4/23-4/19	9	Solubility curve for a ternary system of liquids	2 hour	Report Evaluation
9	4/30-4/26	10	Kinetics of Hydrolysis of aspirin	2 hour	Report Evaluation
10	5/7-5/3	11	Emulsions: Preparation and Stabilization	2 hour	Report Evaluation
11	5/14-5/10	12	Adsorption Isotherm	2 hour	Report Evaluation
	17/5-19/5	13	<b>Practical Final Exam</b>		
		14	<b>Theoretical Final Exam</b>		

**Your course grade will be determined by the following:**

<i>Assessment Method</i>	<i>% of Final Grade</i>	<i>Due Date</i>
Laboratory Quizzes	10%	To be announced (3 Quiz)
Laboratory Reports	20%	Every week
In lab performance	5%	Every week
Practical Exam	25%	Week 13
Theoretical Final exam	40%	Week 14

#### **Important regulations**

- On average, students need to spend 3 hrs of study and preparation weekly.
- Professional dressing is required with a clean lab coat and a tag name.
- Excellent attendance is expected. According to the university policy, students who miss more than 15% of the lecture hours with or without excuse will be dismissed from the course
- At the beginning of the lectures, be on time and don't leave before the end of the lecture without an accepted excuse
- If you missed a class, it is your responsibility to find out about any announcements or assignments you have missed
- For any clarification, please communicate your instructor at his posted office hours or by appointment
- Switch off your mobile or keep it silent throughout the lecture
- Listen well to the lecture and avoid side discussions, if you have a question, ask your instructor and not your colleague
- Exams are scheduled to be given twice throughout the semester, you are expected to attend all. If not, make-up exams will be offered for valid reasons. It may be different from regular exams in content and format.
- The format of the exam is generally (**but not always**) multiple-choice and short essay questions
- Cheating, academic misconduct, fabrication and plagiarism will not be tolerated, and the university policy will be applied

**Last updated on 26/2/2026 by: Msc. Anwar Abu Alkahi.**