

Course E-Syllabus

1	Course title	Physical Pharmacy lab Practical.
2	Course number	1202236
3	Credit hours	1 hr (Practical)
	Contact hours (theory, practical)	3 hr (Practical)
4	Prerequisites/corequisites	Physical Pharmacy (1202131)
5	Program title	B.Sc. Pharmacy
6	Program code	
7	Awarding institution	The University of Jordan
8	School	Pharmacy
9	Department	Pharmaceutics and Pharmaceutical Technology
10	Level of course	Second year
11	Year of study and semester (s)	2021/2022 (first semester)
12	Final Qualification	Pharmacy and Pharm D
13	Other department (s) involved in teaching the course	NA
14	Language of Instruction	English
15	Teaching methodology	<input checked="" type="checkbox"/> Blended <input type="checkbox"/> Online
16	Electronic platform(s)	<input type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	Date of production/revision	February 15 th , 2022

18 Course Coordinator:

Name: Ebtesam Helmi Al-hawamdeh Office number: Phone number: Email: e.hawamdeh@ju.edu.jo

19 Other instructors:

Name: Dr. Dina El-Sabawi.
Office number:
Phone number:
Email: d.sabawi@ju.edu.jo

Name: Dr. Sharif Abdelghany
Office number:
Phone number:
Email: Sharif s.abdelghany@ju.edu.jo

Name: Dr. Enam Khalil
Office number:
Phone number:
Email: ekayoub@ju.edu.jo

Name: Dr. Mais Saleh
Office number:
Phone number:
Email: maispharmacist@hotmail.com

Name: Dr. Samer Abulateefeh
Office number:
Phone number:
Email: S.Abulateefeh@ju.edu.jo

Name: Ph. Rana Alsukhun
Office number:
Phone number:
Email: r.alsukhun@ju.edu.jo

20 Course Description:

Description:

A practical course in physical pharmacy focusing on observing physicochemical phenomena at work in pharmaceutical dosage forms and systems

Methodology

This Course is offered as a blended learning (BL) course, where Face-to-Face and Rotation models are being utilized. Here the students are directed by their instructor, and asked to study and read, online content (videos, pre session educational material, and sometimes websites) outside the class room, then assessed via online quizzes using the Moodle (e-learning). These activities are done prior to the weekly practical session, and during the 3-hour weekly meeting (practical session) each student is asked to apply/perform the experiment, then discuss outcomes/results with instructor and colleagues in the same group and other groups. Students are evaluated by their instructor during the practical session on applying what they had watched prior to session.

21 Course aims and outcomes:

A- Aims:

Successful completion of the course should lead to the following outcomes:

1. To provide students with the practical laboratory skills of physical pharmacy.
2. To demonstrate the effect of the physico-chemical properties phenomena on pharmaceutical systems.
3. To clarify theoretical concepts learned in Physical Pharmacy (1202331).

B- Course Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...

A. Knowledge and understanding:

The student is expected to know the general laboratory safety and basic techniques.

B. Intellectual skills:(cognitive and analytical):

1. The student is expected to develop the ability to suggest suitable techniques to evaluate some physicochemical properties of drug molecules and dosage forms.
2. The student is expected to interpret scientific data and make sound scientific conclusions

C. Subject-specific skills:

1. The student is expected to learn the use of basic instruments analysis and measurement instruments (Spectrophotometer, analytical balance, etc.).
2. The student is expected to know the measurement units and understand their conversions.
3. The student is expected to handle data in terms of graphical presentation and statistical analysis.

D. Transferable skills:

1. Team work.
2. Use oral communication to effectively transmit ideas and conclusions to a scientific

Program Competencies Achieved:

- 3.1 Identify physiochemical properties of drug substances
- 3.4 Demonstrate the ability to perform pharmaceutical calculations
- 3.8 Demonstrate the ability to perform proper documentation

22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1	Lab 1	1-Orientation (Introduction to general laboratory instruction) 2-How to prepare portfolio? 3- Enthalpy Change of Solution	<i>Videos** and word documents about Portfolio preparation and a video includes pre lab material and required information</i>	Practical Sessions Evaluation, Oral discussion, Assignment, Pre-lab Assessment (Moodle-based quizzes) Portfolio(Report), And Post lab quizzes	Instructor, Reports, student's manual, Portfolio templates, and model videos
2	Lab 2	Distribution Coefficient and Stability Constant	Video** about the topic	Practical Sessions Evaluation, Oral discussion, Assignment, Pre-lab Assessment (Moodle-based quizzes), Portfolio(Report) And Post lab quizzes	Instructor, Reports, student's manual, Portfolio templates, and model videos
3	Lab 3	Binary Water-Phenol Mixture	Video** about the topic	Practical Sessions Evaluation, Oral discussion, Assignment, Pre-lab Assessment (Moodle-based quizzes), Portfolio(Report) And Post lab quizzes	Instructor, Reports, student's manual, Portfolio templates, and model videos
4	Lab 4 Part 1	. Ternary Systems	Video** about the topic	Practical Sessions Evaluation, Oral discussion, Assignment, Pre-lab Assessment (Moodle-based quizzes) , portfolio	Instructor, Reports, student's manual, Portfolio

				report and post lab quizzes	templates, and model videos
5	Lab 4 Part 2	Midterm exam (Practical) Tie line construction	Video** about the topic	Practical Sessions Evaluation, and report	Instructor, Reports, student's manual, Portfolio templates, and model videos
6	Lab 5	Workshop, Chemical Kinetics	Video** about the topic	Practical Sessions Evaluation, Oral discussion, Assignment, Pre-lab Assessment (Moodle-based quizzes), portfolio report and post lab quizzes	Instructor, Reports, student's manual, Portfolio templates, and model videos
7	Lab 6	Transfer of Salicylic acid across Polymeric membrane	Video** about the topic	Practical Sessions Evaluation, Oral discussion, Assignment, Pre-lab Assessment (Moodle-based quizzes), portfolio report and post lab quizzes	Instructor, Reports, student's manual, Portfolio templates, and model videos
8	Lab 7	Transfer of Salicylic acid across Polymeric membrane	Video** about the topic	Practical Sessions Evaluation, Oral discussion, Assignment, Pre-lab Assessment (Moodle-based quizzes), portfolio report and post lab quizzes	Instructor, Reports, student's manual, Portfolio templates, and model videos
9	Lab 8	Critical Micelle Concentration	Video** about the topic	Practical Sessions Evaluation, Oral discussion, Assignment, Pre-lab Assessment (Moodle-based quizzes), portfolio	Instructor, Reports, student's manual, Portfolio

				report and post lab quizzes	templates, and model videos
10	Lab 9	Solubilization	Video** about the topic	Practical Sessions Evaluation, Oral discussion, Assignment, Pre-lab Assessment (Moodle-based quizzes), portfolio report and post lab quizzes	Instructor, Reports, student's manual, Portfolio templates, and model videos
11	Lab 10	Adsorption isotherm	Video** about the topic	Practical Sessions Evaluation, Oral discussion, Assignment, Pre-lab Assessment (Moodle-based quizzes), portfolio report and post lab quizzes	Instructor, Reports, student's manual, Portfolio templates, and model videos
12		Final Exam (practical)			
13		Final Exam (Theoretical)			

***All videos were pictured and prepared; in the same practical session hall, using the same equipment, tools, and materials, by Ph.Ebtesam Alhawamdeh. Each experiment video contains the practical part pictured inside the laboratory under the same settings that will be used by students. Moreover, all meeting videos were prepared also by Ph.Ebtesam Alhawamdeh, which contains theoretical information.

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

23 Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
1-Students portfolio reports and assignments	10	For each lab	Each week	
2- Evaluation on practical	10	For each lab	Each week	

sessions				
3- Quiz	10	For each lab	In week 7	
4-pre-lab assessment (online quizzes)	10	For each lab	Each week	
5- Final Exam	10	All material is included	Week 13	

24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

students should have a computer, and internet connection)

25 Course Policies:

A- Attendance policies:
First warning – with 1 absences
Last warning – with 2 absences
Failing in the subject – with 3 absences

B- Absences from exams and submitting assignments on time:
Will result in zero achievement unless health report or other significant excuse is documented.

C- Health and safety procedures:
General Laboratory safety Instruction are maintained

D- Honesty policy regarding cheating, plagiarism, misbehavior:
The participation, the commitment of cheating will lead to applying all following penalties together

- 1) **Failing the subject he/she cheated at**
- 2) **Failing the other subjects taken in the same course**
- 3) **Not allowed to register for the next semester. The summer semester is not considered as a semester**

E- Grading policy:

Evaluation	10 points
Quizzes:	10 points
reports	10 points
Pre-lab assessment	10 points
Mid Exam:	20 points (20 points practical)
Final Exam:	40 points (10 point theoretical, and 30 points practical)
Total	100 points

F- Available university services that support achievement in the course:

- 1-Laboratory room,
- 2- internet classes

26 References:

A- Required book(s), assigned reading and audio-visuals:

Laboratory Manual (Physical Pharmacy)


B- Recommended books, materials and media:

- 1- **British Pharmacopeia**
- 2- **United states Pharmacopeia**

C- Required equipment:

All equipment, glassware, instruments required to perform assigned experiments.

27 Additional information:

Name of Course Coordinator: Ph. Ebtessam Alhawamdeh Signature:  Date: 16/2/2022

Head of Curriculum Committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of Curriculum Committee/Faculty: ----- Signature: -----

Dean: ----- Signature: -----