



**Jerash University
Faculty of Pharmacy**

20xx/20xx

Course Syllabus

Course Title: Industrial Pharmacy	Course code: 1101426
Course Level: 4th	Course prerequisite : Pharmaceutics 2
Lecture Time:	Credit hours: 3 hours

Academic Staff

Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Dr. Shadi Gharaibeh	Asst. Prof.	409	TBA	TBA

Module description:

This industrial pharmacy course aims to help students develop their knowledge of the theory and its application in the manufacturing of solid dosage forms which include: tablets, hard gelatin capsules, soft gelatin capsules....etc.

Module objectives:

At the completion of the course, students should be able to:

1. Evaluate the steps involved in the manufacturing of the discussed dosage forms.
2. Differentiate between techniques used in the manufacturing of the discussed dosage forms.
3. Identify problems that can be associated with drug manufacturing.

Teaching methods:

Lectures (interactive; group discussion)

Learning outcomes:

At the end of this module, student will be able to:

1. Define and explain the rational of solid dosage forms.
2. Understand the physicochemical properties of solid dosage form.
3. Explain and illustrate the various materials used in formulation of each dosage form.
4. Understand and practice the different methods of compounding of each dosage form.

Assessment instruments

- Short reports and/ or presentations, and/ or Short research projects
- Quizzes.
- Home works
- Final examination: 40 marks

<u>Allocation of Marks</u>	
Assessment Instruments	Mark
First examination	20%
Second examination	20%
Final examination: 50 marks	40%
Reports, research projects, Quizzes, Home works, Projects	20%
Total	100%

Course/module academic calendar

Course Content	
Week	Topics
1	1. Preformulation a. Introduction b. Bulk characterization c. Solubility analysis d. Stability analysis
2-5	2. Tablets a. Advantages and disadvantages b. Properties and evaluation c. Tablet compression operation d. Processing problems e. Granulation and excipients
5-7	3. Tablet coating a. Principles b. Tablet coating processes c. Coated tablet evaluation

	d. Materials used in coating
7-9	4. Hard gelatin capsules a. Materials b. Method of production - filling operations - Formulations - Finishing
9-11	5. Soft gelatin capsules a. Methods of manufacture b. Capsule shell c. Capsule content
11-12	6. sustained release dosage forms a. Concept b. Theory c. Evaluation and testing
13-15	7. Mixing, milling, and drying

Expected workload:

On average students need to spend 2 hours of study and preparation for each 50-minute lecture/tutorial.

Attendance policy:

Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

Module references:

Text book:

1. **The Theory and Practice of Industrial Pharmacy** , Leon Lachman, Herbert Lieberman, Joseph Kanig, Lea & Febiger, 1986, 3d Edition.
2. **Martin's Physical Pharmacy and Pharmaceutical Sciences** By : Patrick J. Sinko, Lippincott Williams & Wilkins , 2011, 6th Edition

3. Aulton's Pharmaceutics The Design and Manufacture of Medicines, Edit.: Michael E. Aulton & Kevin M. G. Taylor, Pub.: Churchill Livingstone, 4th edition, 2013.

4. Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems by Loyd V. Allen, Jr. & Howard C. Ansel, Lippincott Williams & Wilkins 10th Edition ,2014

In addition to the above, the students will be provided with handouts by the lecturer.