Jerash University
Faculty of pharmacy

Course Syllabus

Course Title: Industrial pharmacy lab	**Course code: 1101427**
Course Level: 4th	**Course prerequisite (s) and/or co requisite(s):** Industrial pharmacy
Lecture Time: TBA	**Credit hours: 1**

Academic Staff Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Dr. Shadi Gharaibeh				**Shadi.gharaibeh@jpu.edu.jo**

Course module description:

This lab focuses on a number of areas of interest in the fields of pharmacy practice and industrial pharmacy. These areas include: compounding of solid dosage forms such as tablets and capsules. In addition it reinforces pharmacy practice skills related to patient care in a pharmacy setup in areas of communication with physicians, handling pharmacy errors, construction of patient charts, drug therapy problems, literature search, patient counseling, and vital signs assessment.

Course module objectives:

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

1. Practice compounding of solid dosage forms.
2. Practice proper communication skills with physicians, and handling pharmacy errors.
3. Practice patient counseling, evaluation of vital signs, and establishment of patient charts
4. Practice advanced literature search for pharmacy related information

Course/ module components:

- **Books (title , author (s), publisher, year of publication)**

  please refer to the attached list of electronic and hardcopy resources.

  References:

  please refer to the attached list of electronic and hardcopy resources.

- **Support material.**
- **Study guide.**
- **Homework and laboratory guide.**

Teaching methods:

1. Lab notes on each experiment containing an introduction and self reading materials.
2. In-lab experiments (compounding).
3. In-lab assignments.

Learning outcomes:

- Knowledge and understanding
  Carry out compounding of different solid dosage forms.

- Cognitive skills (thinking and analysis).

Carry out literature search to obtain reliable information related to pharmaceutics and pharmaceutical care.

- Communication skills (personal and academic).

  Carry out proper communication with physicians to assure proper drug administration, and to become familiar with adequate handling of pharmacy errors.
  Carry out successful patient counseling, chart establishment, and determination of blood pressure, pulse, body temperature.

- Practical and subject specific skills (Transferable Skills).
  Carry out compounding of different solid dosage forms.

Assessment instruments

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

Allocation of Marks	
Assessment Instruments	**Mark**
Mid examination	**20%**
Final examination	**40%**
Reports, research projects, Quizzes, Home works, Projects	**40%**
Total	**100%**

Documentation and academic honesty

- Documentation style (with illustrative examples)
- Protection by copyright
- Avoiding plagiarism.

Course/module academic calendar

week	***topics***	*Details*
1	- Dissolution of solids. - Project.	1- Practice construction of dissolution profiles for tablets and capsules. 2- In-lab assignment, literature search.
2	Micromeritcs.	1-Determination of bulk, tap, granular, and true densities for zinc oxide powder. Determination of particle size distribution for sodium chloride powder. 2- In-lab assignment, Uncovering DTP and writing proper recommendation. 3- Practice patient counseling.
3	Preparation of granules.	1-Practice preparing granules of a given drug using wet method.
4	Preparation of tablets.	1- Practice formulation of a powder mixture and use of tableting machine to form tablets by direct compression method. 2- Practice using identification markings on tablets. 3- In-lab assignment, literature search (JFDA).

5	Evaluation of tablets	1- Practice evaluation of tablets in terms of Hardness, friability, disintegration, weight variation, and content uniformity.
6	Filling of hard gelatin capsules.	1- Practice proper filling (manual) of hard gelatin capsules with a given drug. 2- Practice patient counseling.
7	Preparation of a liquid solution from pre-filled hard gelatin capsules.	1-Compounding of a liquid clindamycin solution using pre-filled capsules. 2- Literature search related to physical and therapeutic properties of clindamycin. 3-practice patient counseling.
8	Communication with physicians.	1- Introduction to proper techniques for communication with physicians (DTP related problem) 2- In-lab assignment, Uncovering DTP, writing proper recommendation, and communication with a physician.
9	Handling pharmacy errors.	1- Introduction to types of errors that a pharmacist might encounter during practice. 2- Introduction to techniques applicable to reduce the risk of encountering such errors. 3- Practice proper handling of patients complaints related to pharmacy errors.
10	Project presentations.	1- Presentation of project material for each student.

Expected workload:

Average work-load student should expect to spend is 2 hours/week

Attendance policy:

Dressing code: Professional dressing is required, with a clean lab coat and tag name. Excellent attendance is expected.

Module references

please refer to the attached list of electronic and hardcopy resources.