

# The University of Jordan

**Faculty:** Faculty of Pharmacy

**Department:** Pharmaceutics and  
Pharmaceutical Technology

**Program:** Pharmacy and Pharm D

**Academic Year/ Semester:** Fall Semester  
2013-2014

## **Practical Pharmaceutical Technology I 1212332**

<b>Credit hours</b>	<b>one credit hour</b>	<b>Level</b>	<b>Third Year</b>	<b>Pre-requisite</b>	<b>-</b>
<b>Lecturer</b>		<b>Office number</b>		<b>Office phone</b>	
<b>Course website</b>		<b>E-mail</b>		<b>Place</b>	

### **Office hours**

<b>Day/Time</b>	<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>

### **Course Description and aims**

The series of practical classes provides advanced skills in the area of pharmaceutical technology and has particular emphasis on the methods, materials and testing procedures associated with the manufacture of pharmaceutical grade tablets. Experiments illustrate the flow properties of powders, mixing and milling of powders, wet and dry granulation methods, powder particle size analysis, tableting technology and dissolution of dosage forms.

### **Learning Objectives**

Students are expected to be able to test the concepts and theory of all pharmaceutical industry unit operations

### **Method:**

Pre-lab preparation (all students required to read the instructions for the relevant experiment prior to attending the lab - 30 minutes per lab).

Laboratory time: 30 hours total (10\*3 hours)

### **Intended Learning Outcomes (ILOs):**

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

#### **A. Knowledge and Understanding:** Student is expected to

A1- Full details of the experimental procedures and background information are provided in the laboratory schedules. Students are expected to read these schedules prior to entering the laboratory.

A2- Students are expected to carry out the experiment quickly and efficiently, and to understand the experiment and the data analysis methods requested in the schedule.

#### **B. Intellectual Analytical and Cognitive Skills:**

B1- Student is expected to be able to analyze the collected data during practical's and different factors affect the studied processes.

B2- Student is expected to be able prepare the Lab report in groups and to make clear conclusions from analyzed data

#### **C. Subject-Specific Skills:** Student is expected to

C1- Report writing

C2- Practical application of theory

C3- Information retrieval and analysis

#### **D. Transferable Key Skills:** Students is expected to

D1- Deductive reasoning

D2- Numerical Analysis

D2- Written/oral communication

### **ILOs: Learning and Evaluation Methods**

<b>ILO/s</b>	<b>Learning Methods</b>	<b>Evaluation Methods</b>
Studying the different industrial unit operation (concepts and practice)	Experiments Lecturing	Practical sessions assessment Reports
Learning basic tests for particles/Powders characterization	Experiments Lecturing	Practical sessions assessment Reports
Learning some tests for final dosage forms evaluation	Experiments Lecturing	Practical sessions assessment Reports

## **Assessment**

The module will be assessed by 8 written reports. For two practicals the practical report will include full details of the experimental procedure, results, discussion and answers to questions posed in the laboratory schedule. For the other practicals students will contribute to group reports, which should conform to guidelines which will be provided.

An assessment of individual student's practical skills will be made on each practical day. At the end of each group report, you will be asked as a group to indicate the relative contribution to the practical work and to the write-up. Individual student marks for group work, will reflect the group assessment of individuals contributions. If you do not provide this assessment, then all members of the group will be given the same mark, which will then be moderated according to the results of the assessment of individual student's practical skills.

## **Evaluation**

<b>Evaluation</b>	<b>Point %</b>	<b>Date</b>
<b>Midterm Exam</b>	<b>30</b>	<b>21/11/2013</b>
<b>Reports</b>	<b>10</b>	<b>Weekly</b>
<b>Evaluation/ during practical session</b>	<b>10</b>	<b>Weekly</b>
<b>Log-book</b>	<b>10</b>	<b>Weekly</b>
<b>Final Exam</b>	<b>40</b>	<b>24/12/2013</b>

## **Main Reference/s:** **Laboratory Manual**

### **References:**

Pharmaceutics: The Science of Dosage Form design

Pharmaceutical Dosage Forms: Tablets (1:3) (Leiberman and Lachman eds)

British Pharmacopeia

United States Pharmacopeia