



Philadelphia University
Faculty of Pharmacy
Department of Pharmaceutical Sciences
Second Semester, 2017/2018

Course Syllabus

Course Title: Pharmaceutics II	Course code: 0510323
Course Level: 3 rd year	Course prerequisite : Pharmaceutics I (0510321)
Lecture Time: Ms. Ruwaida Abdo (2) Mon, Wend 8:15-9:15 (4) Mon , Wend 12:45-1:45 Ms. Alaa Adnan (1) Sun ,Tus 1:10-2:00 (3) Mon, Wend 9:45-10:45 (5) Sun ,Tus 11:10-12:00	Credit hours: 2 hours

Academic Staff

Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Ms. Ruwaida Abdo	Lecturer	0915210	Sun ,Tues, Thur 10-11 Mon, Wed 9:45-10:45	rwabdo@philadelphia.edu.jo
Ms. Alaa Adnan	Lecturer	532	Sun ,Tues, 12-1 Mon, Thur 11-12	aadnan@philadelphia.edu.jo

Module description:

This course is intended to provide the Knowledge and skills necessary for the continued developing roles of pharmacist. The course will cover the formulation of different types of Semisolid dosage forms as skin drug delivery system, Pharmaceutical inserts suppositories and Pessaries, Aerosols also learn about pharmaceutical products stability and stability testing.

Module objectives:

The course aims at:

1. Understanding the concepts of pharmaceutical Semisolid dosage forms, factors that affect their stability and describing approaches used in preparing physically stable formulations.
2. Understand and Compare the different types of ointment bases and the properties of each one and practice the ability or selection of appropriate base.
3. Describe the methods of preparation of ointments, Preservation of ointments and the compendial requirements of ointments.
4. Understand and Compare various types of pharmaceutical inserts and suppositories dosage forms in terms of physical appearance, size, and shape. And Describe the advantages and disadvantages of suppository drug delivery and the physiological factors affect their absorption
5. Familiarizing students with Pharmaceutical Preparation of Aerosols.
6. Discuss the various types of stability of pharmaceutical products; chemical stability, physical stability and microbiological stability. Also explain the accelerated stability testing

Teaching methods:

Lectures (interactive; group discussion), Numerical problems and identification of some pharmaceutical compounds related to some topics will be discussed in the class.

Learning outcomes:

Knowledge and understanding

Upon completion of this course students will be able to:

1. Define and explain the pharmaceuticals and pharmaceutical dosage forms (i.e., medications used by patients).
2. Understand the physicochemical properties of each 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 solution, suspension and emulsion dosage forms.

Cognitive skills (thinking and analysis)

- Compare various topical preparations used in pharmaceutical dosage forms and assess their advantages and disadvantages.
- Demonstrate capability of choosing the appropriate preparation method for a particular pharmaceutical product prescription compounding.
- Demonstrate and Apply physicochemical and biopharmaceutic concepts to dosage form design.
- Choose appropriate formulations to achieve target properties of given medications.
- Identify the proper measurement and compounding method.
- Formulate significant research questions, design experiments, use appropriate chemical instrumentation, and analyze and interpret data.
- Search and use the chemical literature in both printed and electronic formats.

Transferable Skills

- Use pharmaceutical techniques to calculate and find correct answers to given simple problems in compounding and despising .
- Use pharmacopeia and references guidelines to develop processes, procedures, to produce pharmaceuticals of appropriate quality and quality assures them.
- Read, evaluate, and interpret numerical, chemical and general scientific information.

Course /module components

Text book:

1. Pharmaceutical Dosage Forms and Drug Delivery Systems

by Loyd V. Allen, Jr., Nicolas G. Popovich & Howard C. Ansel, Lippincott Williams & Wilkins 8th Edition ,2005

Assessment instruments

- In-class quizzes
- Homework assignments
- Short reports and/ or presentations, and/ or Short research projects
- Final examination

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

Documentation and academic honesty

- ***Documentation style (with illustrative examples)***

Whenever applicable, students should conduct their assignments themselves whether individually or in a group work referencing all information, data, figures and diagrams taken from literature. The references should be given according to the acceptable format.

- ***Protection by copyright***

Students should realize that some published information or data are the property of their authors and they are not allowed to use it without asking permission from the originators.

- *Avoiding plagiarism.*

Plagiarism is the unauthorized use or close imitation of the language and thoughts of another author and the representation of them as one's own original work, without proper acknowledgment of the author or the source. Students must pursue their studies honestly and ethically in accordance with the academic regulations. Cheating in exams and plagiarism are totally unacceptable and those who, intentionally, commit such acts would be subjected for penalties according to the University regulations.

Course/module academic calendar

Week	Basic and support material to be covered
(1, 2 , 3)	Semisolid dosage forms -Types of skin preparation. - Ingredients used in skin preparations. - Dispensing of external preparations. <ul style="list-style-type: none"> • Ointments,
(4)	<ul style="list-style-type: none"> • Creams , gels and pastes
(5)	<ul style="list-style-type: none"> • Features of dermatological preparations
(6 ,7, 8) First examination	<ul style="list-style-type: none"> • Transdermal Drug Delivery system
(9,10,11) Second examination	Pharmaceutical inserts Suppositories and Pessaries: - Suppository bases. - Preparation of suppositories. - Containers for suppositories
(12, 13)	Pharmaceutical Aerosol: - Introduction. - Operation of aerosol package. - Product formulation. - Propellants. - Valves. - Aerosol containers.
(14, 15)	Product stability and stability testing -Chemical stability -Physical stability -Microbiological stability -Accelerated stability testing
(16) Final examination	Final Exam Week

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**Books**

1. Pharmaceutics The Science of Dosage Form Design, Edit.: Michael E. Aulton, Pub.: Churchill Livingstone, 2nd edition, 2002.
2. Merck Index: An Encyclopedia of Chemicals, Drugs, & Biologicals
by Merck, Co, Maryadele J. Oneil (Editor), Ann Smith (Editor) 13th edition (October 2001), Merck & Co; ISBN: 0911910131
3. Physical Pharmacy: Physical Chemical Principles in the Pharmaceutical Sciences
by Alfred Martin, Pilar Bustamante, A.H.C. Chun (Illustrator)
622 pages 4th edition (January 15, 1993), Lea & Febiger; ISBN: 0812114388
4. Remington: The Science and Practice of Pharmacy
by Alfonso R. Gennaro (Editor) 20th edition (December 15, 2000), Lippincott, Williams & Wilkins; ISBN: 0683306472

Websites

<http://www.philadelphia.edu.jo/pharmacy/resources.html>