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

Course Syllabus

Course Title: advanced pharmaceutical technology Practical	**Course code: 0510544**
Course Level: 4th year	**Course prerequisite (s) and/or corequisite (s):** Advanced pharmaceutical technology (0510543)
Lecture Time: Monday 11:15- 1:15 Wednesday 8:15—10:15, 11:15-1:15, 2:15-4:15 Thursday 8:10-10:10 , 1:10-3:10	**Credit hours:** 1 hour

Academic Staff Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Rania Abdo	**Lab. instructor**	**414**	**Daily from 12-1**	**rabdo@philadelphia.edu.jo**

Course module description:

This course is complementary part to the theoretical lectures provided by the co-requisite course Pharmaceutical Technology. This course is designed to give the student a detailed knowledge concerning tablets and granulation of powders as one of the main prerequisite steps for tablet compression. Quality control of some solid dosage forms are covered by this practical module. Tablet conditioning is also included in this module such as sugar coating process in which these steps and problems encountered during it are dealt with.

Course/ module components

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

Pharmaceutics: The Science of Dosage Form Design
by Michael E. Aulton (Editor) 2nd edition (December 15, 2001), Churchill Livingstone; ISBN: 044305517

- **Support material (s) (vcs, acs, etc).**

Each student has to obtain his/her Manual of Pharmaceutical Technology from the University Bookshop.

- **Study guide (s) (if applicable)**

See references at the end.

- **Homework and laboratory guide (s) if (applicable).**

Each student has to obtain his/her own results and follow the instructions at the manual. Each student is expected to submit his own report on the provided sheets at every coming laboratory.

Teaching methods:
Tutorials, discussion groups, problem solving, debates, etc.

Learning outcomes:

- **Knowledge and understanding**

Students will understand and see the machines that are used in formulation.

- **Cognitive skills (thinking and analysis).**

Upon acquisition of the different related data, students will analyze the data they acquired in the right manner using the appropriate analysis.

- **Communication skills (personal and academic).**

Students will work in groups in this module, therefore they have to joint their efforts and data and produce a qualified report to the tutor.

- **Practical and subject specific skills (Transferable Skills).**

Students will use their theoretical knowledge and will apply this knowledge into practical work under the supervision of the tutor.

Assessment instruments

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

Allocation of Marks	
Assessment Instruments	**Mark**
Reports and evaluation	**30**
Quizzes	**20**
Home works, Projects, practical examination	**10**
Final examination:	**40**
Total	**100**

Documentation and academic honesty

- Documentation style (with illustrative examples)

Documentation will be done on every experiment the student does.

- Protection by copyright.

. Coursework, laboratory exercises, reports, and essays submitted for assessment must be your own work, unless in the case of group projects a joint effort is expected and is indicated as such.

- Avoiding plagiarism.

1. Unacknowledged direct copying from the work of another person, or the close paraphrasing of somebody else's work, is called plagiarism and is a serious offence, equated with cheating in examinations. This applies to copying both from other students' work and from published sources such as books, reports or journal articles.
2. Plagiarism is a serious offence and will always result in imposition of a penalty. In deciding upon the penalty the Department will take into account factors such as the year of study, the extent and proportion of the work that has been plagiarized, and the apparent intent of the student. The penalties that can be imposed range from a minimum of a zero mark for the work (without allowing resubmission) through caution to disciplinary measures (such as suspension or expulsion).

Course/module academic calendar

week	Basic and support material to be covered	Homework/reports and their due dates
(1)15 -19 /10/2017	Introduction and safety rules	
(2) 22- 26/10/2017	Tablet production	
(3)29/10-2/11/2017	Quality control of tablets **(1):** Uniformity of weight BP Uniformity of diameter BP Disintegration test BP	**Q1**
(4) 5-9/11/2017	Quality control of tablets **(2).** Friabilty, crushing strength Uniformity of content BP	**Q2**
(5) 12-16/11/2017	Dissolution test of paracetamol 500 mg tablets BP	
19-23/11/2017	First exam	
(6) 26- 30/11/2017	Determination of dissolution profile of immediate release paracetamol tablets	**Q3**
(7) 3-7/12/2017	Quality control of capsules: indomethacin 25 mg capsules Dissolution test USP	
(8)10-14/12/2017	Quality control of capsules(2): Mefenamic acid 250 mg capsules Uniformity of content BP	**Q4**
(9)17-21/12/2017	Effervescent granules	
24-28/12/2017	Second exam	
(10) 31/12-4/1/2018	Film coating of tablets	
(11) 7-11/1/2018	Discussion	
(12) 14-18/1/2018	Final Examination	

Expected workload:
On average students need to spend 1 hours of study and preparation for each 2 hours laboratory

Attendance policy:
Absence from labs 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

1. Ansels Pharmaceutical Dosage Forms and Drug Delivery Systems (Paperback) by Loyd V., Jr. Allen, Nicholas G. Popovich, Howard C. Ansel, Loyd V. Allen, Publisher: Lippincott Williams & Wilkins; 8th edition (August 3, 2004) ISBN: 0781746124

2. Modern Pharmaceutics
by Gilbert S. Banker (Editor), Christopher T. Rhodes (Editor) 4th edition (June 15, 2002), Marcel Dekker; ISBN: 0824706749

3. 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

4. The Theory and Practice of Industrial Pharmacy
by Leon Lachman, Herbert A. Lieberman, Joseph L. Kanig. 3rd edition (August 1986), Lea & Febiger; ISBN: 0812109775

5. 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

6. Handbook of Pharmaceutical Excipients
by Arthur H. Kibbe (Editor), Ainley Wade, Paul J. Weller
665 pages 3rd edition Vol 3 (January 15, 2000), Amer. Pharmaceutical Assoc.; ISBN: 091733096X

7. Remington: The Science and Practice of Pharmacy by David B. Troy (Editor), Publisher: Lippincott Williams & Wilkins; 21st edition (May 28, 2005) ISBN: 078174673