



Jerash University
Faculty of pharmacy
Department of pharmaceutical science
First semester, 2016/2017

Course Syllabus

Course Title: Pharmaceutical Medicinal Chemistry II	Course code: 1101312
Course Level: 3rd level	Course prerequisite (s) and/or corequisite (s): Pharmaceutical medicinal chemistry (I) 1101311
Lecture Time: S + T: 08:00-09:30	Credit hours: 3 hours

Academic Staff Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Dr. Muwaffag Badawneh	Professor	406 Pharmacy building	12:00 – 13:00	badawneh@hotmail.com

Course module description:

The subject treats many aspects in drug metabolism, drug metabolism reactions are divided into two major categories: phase I (functionalization) and phase II (conjugation) reaction. Phase I includes oxidative, reductive, and hydrolytic biotransformations. The purpose of phase II reactions is to attach small polar and ionizable endogenous compounds. Both phase I and phase II reactions complement one another in detoxifying and eliminating drugs and xenobiotics.

Course module objectives:

Student will be able to have full knowledge of drug metabolism, factors affecting drug metabolism, specific and non-specific enzymes and in vivo organs associated with drug metabolism. Also, the student should know the physicochemical properties used to develop new pharmacologically active compounds, their metabolism including possible biological activities of the metabolites.

Course/ module components

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

- 1- Wilson and Gisvold's text book of organic medicinal and pharmaceutical chemistry by John H. Black and John M. Beale, jr. Eleventh edition, Lippincott Williams and Wilkins 2004.
- 2- Foye's principle of medicinal chemistry by David H. Williams, Thomas L. Leuke, Williams O. Foye. Lippincott William and Wilkins. Fifth edition, 2002, ISBN.

- **Support material (s) (vcs, acs, etc).**
- **Study guide (s) (if applicable)**
- **Homework and laboratory guide (s) if (applicable).**

Teaching methods:

Lectures, seminars and discussion groups

Learning outcomes:

- Knowledge and understanding

The student will be able to:

- 1- Have a good knowledge of the drug metabolism
- 2- Have a good knowledge of factors affecting drug metabolism as age, sex differences, heredity and genetic
- 3- Understand drug- drug interaction, enzyme induction and inhibition

- Cognitive skills (thinking and analysis).

The student will be able to give a lecture, to discuss problems with others and communicate with his colleagues and analyse different subjects

- Practical and subject specific skills (Transferable Skills).

Student will have the ability to design, synthesize, formulate different types of pharmaceutical and medicinal agents of interest.

Assessment instruments

- Short reports and/ or presentations, and/ or Short research projects
- Quizzes.
- Home works
- Final examination: 50 marks

<u>Allocation of Marks</u>	
Assessment Instruments	Mark
First examination	20
Second examination	20
Final examination: 50 marks	50
Reports, research projects, Quizzes, Home works, Projects	10
Total	100

Documentation and academic honesty

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

Course/module academic calendar

week	Basic and support material to be covered	Homework/reports and their due dates
(1)	Introduction to medicinal chemistry (II)	
(2)	Antiseptics and disinfectants	
(3)	Antibiotics B-lactam type	
(4)	Antibiotics others	
(5)	Synthetic antibacterial agent	
(6) First examination	Anti mycobacterial agents	
(7)	Antifungal agents Antiviral agents	
(8)	Anticancer agents	
(9)	Antidiabetic agents	
(10)	antihyperlipidemic agents	
(11) Second examination	Volatile Anesthetics	
(12)	Sedatives and hypnotics Anticonvulsants agents	
(13)	Antiparkinsonism agents	
(14)	Analgesics agents Antidepressants agents	
(15) Specimen examination (Optional)	Hormones and vitamins	
(16) Final Examination		

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- Text book : Wilson and Gisvolds text book of organic medicinal and pharmaceutical chemistry by John H. Black and John Beal , eleventh edition , 2004
- 2- Foys principle of medicinal chemistry by David A. Williams , fifth edition, 2002
- 3- Burgers Medicinal Chemistry and drug discovery by Alfred Burger, sixth edition , 2003