



كلية الصيدلة جامعة الزيتونة الأردنية
Faculty of Pharmacy
Al-Zaytoonah University of Jordan

" نحو تعليم صيدلاني متميز "
Toward Excellence in Pharmaceutical
Education

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Faculty of Pharmacy



" Tradition and Quality "

Detailed Course Description - Course Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-3.0E
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Faculty	Pharmacy	Department	Pharmacy
Course number	0201316	Course title	Phytochemistry lab
Number of credit hours	1	Pre-requisite/co-requisite	Instrumental analysis lab and Phytochemistry

Brief course description

This practical course aims to teach the students the different parts of used medicinal plants and their macroscopical and microscopical features. Furthermore, several phytochemical classes are discussed from different aspects including extraction, separation and identification.

Course goals and learning outcomes	
Goal 1	The use of microscope to study the diagnostic features of different parts of used medicinal plants
Learning outcomes	1.1 The student should be able to perform the macroscopical and microscopical studies of leaves, flowers, seeds, fruits, roots and barks.
Goal 2	The methods of separation and identification of different classes of biologically active compounds from natural products
Learning outcomes	2.1 The student should be able to recognize the extraction and chemical tests for identification of glycosides, tannins, saponins and alkaloids.
Goal 3	The different chromatographic separation and visual detection of the above compounds.
Learning outcomes	3.1 The student should be able to explain the basic chromatographic techniques and their uses and applications. 3.2 The student should be able to have application skills in the use of TLC in detection and identification of anthraquinone glycosides.
Textbook	Trease and Evans Pharmacognosy. 16th Text Books edition, saunders Elsevier.2009
Supplementary references	Lab Manual



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Course timeline

Week	Number of hours	Course topics	Pages (textbook)	Notes
1	1 1 1	Introduction to microscopy and microscopical techniques.		
2	1 1 1	Macroscopical and microscopical study of leaves		
3	1 1 1	Macroscopical and microscopical study of flowers		
4	1 1 1	Macroscopical and microscopical study of seeds and fruits		
5	1 1 1	Macroscopical and microscopical study of roots and barks.		
6	1 1 1	Extraction Techniques Cold extraction; maceration, percolation, expression, enfluerage. Hot extraction: digestion, infusion, decoction, clavenger, and soxhlet.		
7	1 1 1	Anthraquinone glycosides Extraction, chemical tests. TLC of anthraquinone		
8	1 1 1	Detection of cardiac glycoside Extraction and chemical tests for identification of cardiac glycosides.		
9	1 1 1	Detection of tannins Extraction and chemical tests for identification of tannins.		
10	1 1 1	Detection of alkaloids Extraction and chemical tests for alkaloids		
11	1 1 1	Detection of saponin glycosides Extraction and chemical identification of saponins		
12	1	Final Exam		



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Theoretical course evaluation methods and weight	First exam 25% Second exam 25% Final exam 50%	Practical (clinical) course evaluation methods	Semester students' work = 50% (Reports, research, quizzes, etc.) Final exam = 50%	

Approved by head of department		Date of approval	
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Extra information (to be updated every semester by corresponding faculty member)

Name of teacher	Iyad Ahmad Yamin, Aman Aref Ishaqat	Office Number	218, 219
Phone number (extension)		Email	aman.ishaqat@zuj.edu.jo iyad.alsheikh@zuj.edu.jo
Office hours			