



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	0201215	Course title	Pharmacognosy
Number of credit hours	2	Pre-requisite/co-requisite	Pharmaceutical Organic Chemistry-1- & Biology

### Brief course description

This course will provide student with general knowledge of crude drugs associated with allopathic medicine. Have sufficient knowledge in plant morphology and plant anatomy to be able to read and understand scientific literature in pharmacognosy with scientific descriptions of plants and crude drugs.

Special emphasis is made on study of crude drugs derived from medicinal plants, their origin, history, cultivation, collection, preparation for market, histological characters of powders, chemical constituents, adulterants, allied drugs and uses.

Course goals and learning outcomes	
<b>Goal 1</b>	Acquaint the students with the basic principles of crude drugs, and the role of natural products in discovery of drugs and their use and application in eradicating ailments.
Learning outcomes	1.1 The students should know and explain the basic pharmacognostical terminology ,botanical nomenclature, general and arabic names of most medicinal plants from which crude drugs are derived., and the role of natural products in the development and production of drugs.
<b>Goal 2</b>	The study of crude drugs derived from medicinal plants, their origin, history, cultivation, collection, preparation for market, morphological and histological characters, adulterants and allied drugs.
Learning outcomes	2.1 The students should recognize methods of cultivation, collection, preparation of medicinal plants for market and the factors affecting their production. 2.2 The students will be able to describe morphology and histology of different plant organs. 2.3 The students should identify and differentiate between crude drugs, based on their macroscopical and microscopical characters in the whole state and in the powder condition for the detection of adulteration of crude drugs using the microscope.
<b>Goal 3</b>	The main active chemical constituents, chemical identification tests and uses of the crude drugs.
Learning outcomes	3.1 The students are reinforce the knowledge of study of plant constituents and its isolation, identification, qualitative and quantitative evaluation and medicinal uses.



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<b>Textbook</b>	<ol style="list-style-type: none"> <li>1. Trease and Evans, " Pharmacognosy". 16<sup>th</sup> Edition, Published by Saunders-Elsevier. 2009.</li> <li>2. T. E. Wallis, "Textbook of Pharmacognosy", 6<sup>th</sup> Ed., CBS Publishers, 2002.</li> <li>3. Pharmacognosy by C. K. Kokate, A. P. Purohit and S.B. Gokhale, 19<sup>th</sup> Edition.</li> </ol>
<b>Supplementary references</b>	<ol style="list-style-type: none"> <li>1. 1.- Pharmacognosy by Makboul M A and Afaf A M, Dar Al-Hamed,1998.</li> <li>2. Mohammed Ali, "Text book of pharmacognosy", 2<sup>nd</sup> Ed., CBS Publishers ,1993.</li> </ol>

Course timeline				
Week	Number of hours	Course topics	Pages (textbook)	Notes
1	1 1	<b>Introduction.</b> Definition of pharmacognosy. Scheme for pharmacognostic studies of natural drugs. Crude drugs, Herbalist, Medicinal and Aromatic plants.	Trease and Evans Chapter 1 T. E. Wallis Chapter 1	
2	1 1	<b>Ergastic cell contents.</b> Cellulose, Hemicellulose, Lignin, Cutin, Suberin, Mucilage, Starch, Protein, Calcium carbonate, Fixed oils & Fats, Volatile oils and Resins, Tannins, Alkaloids, Glycosides and Calcium oxalate crystals.	Trease and Evans Chapter 8	
3	1 1	<b>Cell Differentiation.</b> - Tissue and tissue systems. - Dermal tissue system ( Epidermis, Stomata, Trichomes and Cork ). - Vascular tissue systems ( Xylem and phloem [ Vessels, Fibers, Tracheids, Sieve tube & companion cells and Secretary glands] ) - Ground tissue system ( Parenchyma, Collenchyma and Sclerenchyma ).	Trease and Evans Chapter 8	
4	1 1	<b>Adulteration of crude drugs.</b> - Reasons behind adulteration of crude drugs 1. Faulty of collection. 2. Imperfect preparation. 3. Incorrect storage. -Methods Of adulteration of crude drugs (Sophistication,Substitution,Admixture,Deterioration, Inferiority and Addition of worthless heavy materials).	T. E Wallis Chapter 19	
5	1 1	<b>The Leaves.</b> - The leaf. - Phyllotaxy and types of leaves. - Macroscopical characters of leaves. - Microscopical characters of leaves.	Trease and Evans Chapter 5  T. E. Wallis Chapter 8	



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6	1 1	Complete pharmacognostical studies (Origin, Family, Habitat, History, Cultivation, Collection, Processing for market, Morphological & Microscopical characters, Chemical constituents, Pharmacological action and Commercial varieties, Substitutes and Adulterants of some medicinal plants like: Senna, Digitalis, Buchu, Eucalyptus, Coca, Hamamelis, Tea, Mate, Sage, Melissa ,Thymus, Peppermint, Belladonna, Datura, Hyoscamus .....etc.	Trease and Evans Chapter 5  T. E. Wallis Chapter 8	
7	1 1	<b>Flowers &amp; inflorescences.</b> - Flowers and Inflorescence. - Complete pharmacognostical studies of Clove flower bud, Chamomile, Santonica, Pyrethrum & Saffron ...etc.	Trease and Evans Chapter 5  T. E. Wallis Chapter 9	
8	1 1	<b>The Seeds.</b> - The seed. - Complete pharmacognostical studies of Nux-vomica, Strophanthus, Linseed, Funegreek, Cocoa, Nutmeg, and Colchicum ...ets.	Trease and Evans Chapter 5  T. E. Wallis Chapter 10	
9	1 1	<b>The fruits.</b> Complete pharmacognostical studies of Fennel, Anise, Caraway, Coriander, Ammi visnaga, Ammi majus, Star anise, Capsicum, Vanilla pod, Colcynth, Poppy capsule, Tamarind, Blانيتis and Nigela sativa.....etc.	Trease and Evans Chapter 5  T. E. Wallis Chapter 11	
10	1 1	<b>The Roots &amp; Rhizomes ( Subterranean organs).</b> - Subterranean organs. - Complete pharmacognostical studies of Liquorice, Ginger, Rhubarb, Ipecacuanha, Aconite, Rowalfia, Ginseng, Turmeric, Squill, Garlic and Onion.....etc.	Trease and Evans Chapter 5  T. E. Wallis Chapter 13	
11	1 1	<b>The barks &amp; woods.</b> - Complete pharmacognostical studies of Cinchona, Cinnamon, Cascara, Frangula, Wild cherry, Quillaia, Cassia, Salix, Guaicum & Quassia ...etc.	Trease and Evans Chapter 5  T. E. Wallis Chapters 6&7	
12	1 1	<b>The Herbs.</b> - Herbs. - Complete pharmacognostical studies of Ergot, Ephedra, and Indian Hemp ...etc.	Trease and Evans Chapter 5  T. E. Wallis Chapter 12	
13	1 1	<b>Unorganized drugs.</b> - Unorganized drugs. - Resins (Asafetida, Myrrh, Ammoniacum, Galbanum - Balsams( Benzoin, Sumatra benzoin, Storax, Balsam tolu, Balsam peru )	Trease and Evans Chapter 5  T. E. Wallis Chapters 14, 15 & 16	



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<b>14</b>	<b>1</b> <b>1</b>	- Gums. - Dried juice ( Aloe ). - Dried extract( Agar- Agar, Gelatin ). - dried latex ( Opium ).	Trease and Evans Chapter 5  T. E. Wallis Chapters 14, 15 & 16	
<b>15</b>	<b>1</b> <b>1</b>	<b>Final Exam.</b>		

<b>Theoretical course evaluation methods and weight</b>	First exam 25% Second exam 25% Final exam 50%	<b>Practical (clinical) course evaluation methods</b>	Semester students' work = 50% (Reports, research, quizzes, etc.) Final exam = 50%
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<b>Approved by head of department</b>		<b>Date of approval</b>	
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Extra information (to be updated every semester by corresponding faculty member)

<b>Name of teacher</b>	Iyad Alsheikh	<b>Office Number</b>	219
<b>Phone number (extension)</b>	313	<b>Email</b>	<a href="mailto:iyad.alsheikh_zug.edu.jo">iyad.alsheikh_zug.edu.jo</a>
<b>Office hours</b>	Sun. and Wed. 8-11 Mon. 11-12 Tue. 12-1		