



Course Syllabus

Name of the First Teacher of the Course: Ali Rahman

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Name of the Second Teacher of the Course: Thuki Zuher

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Name of the Third Teacher of the Course:

Accademic Rank:

Degree:

E-mail:

Course Title	Pharmacognosy
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Academic System	<input checked="" type="checkbox"/>	Semester System				<input type="checkbox"/>	Annual
Course Objectives	This course is intended to study the scope of pharmacognosy medicinal plant nomenclature, classification of natural products, pharmacological activities of medicinal plants, quality control , phytochemistry which include extraction & isolation of active constituents from natural sources.						
Textbooks	Pharmacognosy By Trease & Evans						
Reference Books	➤ ➤ ➤ ➤						
Course Assessment for Semester System (%100)	Theoretical Content Exam	Laboratory work	Quizzes	Project	End Semester Examination		
	20%	25%	5%		50%		
Course Assessment for Annual System (%100)	First Term	Midterm Exam	Second Term	Laboratory Work	Final Examination		
Additional Information							



Weekly Schedule

week	Theoretical Content	Laboratory Work	Notes
1	General introduction: the scope of pharmacognosy, definitions & basic principles, natural sources of drugs, crude drugs, official & non official	Micro measurements & magnification	
2	Classification of natural products, plant nomenclature & taxonomy, production of crude drugs: cultivation, collection, drying, storage	Unknown examination in micro measurements	
3	Pharmacological activities of medicinal plants, adulteration of crude drugs Deterioration of crude drugs	Microscopical identification of crude drugs & cell contents	
4	Chemistry of natural products Quality control of crude drugs	Microscopical identification cont.	
5	Phytochemistry: Extraction of plant materials	Extraction techniques	
6	Separation techniques: introduction, mechanism	Chromatography	
7	Chromatography: introduction, Classification , mechanism	Thin layer chromatography	
8	Thin layer chromatography	Paper chromatography: ascending technique	
9	Paper chromatography	Paper chromatography: horizontal technique	
10	Column chromatography	Effect of solvent polarity on the Rf value	
11	Gas –liquid chromatography	Effect of activation on the Rf value	
12	Gel filtration, ion exchange, affinity chromatography	Column chromatography	
13	HPLc,	Column chromatography cont.	
14	Tissue culture of medicinal plants: introduction & history	Partition chromatography for separation of volatile oils	
15	Laboratory of the plant tissue culture, aseptic technique	Examination in different techniques of chromatography	
16	Application of plant tissue culture , environmental & biological control, plant growth regulator		
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Course Syllabus of Pharmacognosy II 3rd stage

Course Title	Pharmacognosy		
Academic System	<input checked="" type="checkbox"/>	Semester System	<input type="checkbox"/> Annual
Course Objectives	Studying some groups of secondary metabolites chemically , biologically , pharmacologically & their biosynthesis pathway & uses		
Textbooks	1-Pharmacognosy & pharmaco biotechnology Robbers JE , Speedie MK , Tyler 2- Pharmacognosy Trease & Evans		



Reference Books	<p>1- Medicinal natural products : A biosynthetic approach By: Paul M. Dewick</p> <p>2- Textbook of pharmacognosy & phytochemistry By: Edwin jarald</p>				
Course Assessment for Semester System (%100)	Theoretical Content Exam	Laboratory work	Quizzes	Project	End Semester Examination
	20%	25%	5%	—	50%
Course Assessment for Annual System (%100)	First Term	Midterm Exam	Second Term	Laboratory Work	Final Examination

Weekly Schedule

week	Theoretical Content	Laboratory Work	Notes
1	Introduction:General biosynthesis pathway of secondary metabolites	Extraction of cardioactive glycosides	2hr
2	Biosynthesis cont.	Identification of cardioactive glycosides	2hr

3	Carbohydrates & introduction of glycosides	Extraction of anthraquinone glycosides	2hr
4	Cardiac glycosides	Identification of anthraquinone glycosides	2hr
5	Anthraquinone glycosides	Extraction & identification of saponin glycosides	2hr
6	Saponin & cyanophore glycosides	Extraction & identification of tannins	2hr
7	Flavonoid glycosides	Extraction of volatile oils	2hr
8	Isothiocyanate ,aldehyde,alcohol, lactone , & phenol glycosides	Identification of volatile oils	2hr
9	Tannins , Introduction of volatile oils	Extraction of flavonoids	2hr
10	Biosynthesis & chemistry of volatile oils	Identification of flavonoids	2hr
11	Types of volatile oils	Extraction of hesperidin	1hr
12	Types of volatile oils cont., Lipids : introduction	Extraction of pectin	2hr
13	Biosynthesis, chemistry , rancidity , evaluation of fixed oils	Isolation of citric acid from lemon juice	2hr
14	Examples of fixed oils , waxes,	Preparation of khellin	2hr

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Republic of Iraq
Ministry of Higher Education and
scientific research
University of Baghdad
Quality Assurance and Academic
Performance Department



College Pharmacy
Department
: Pharmacognosy
Stage: Three:

Course Syllabus

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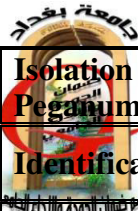
Course Title		
Academic System	<input checked="" type="checkbox"/> Semester System	<input type="checkbox"/> Annual
Course Objectives	Studying some groups of secondary metabolites chemically , biologically , pharmacologically & their biosynthesis pathway & uses	
Textbooks	1-Pharmacognosy & pharmaco biotechnology Robbers JE , Speedie MK , Tyler 2- Pharmacognosy Trease & Evans 3-Fundamentals of pharmacognosy & phytotherapy By: Michael Heinrich & Joanne Barnes	
Reference Books	1-. Medicinal natural products : A biosynthetic approach By: Paul M. Dewick 2- Textbook of pharmacognosy & phytochemistry By: Edwin jarald	



					
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Weekly Schedule

week	Theoretical Content	Laboratory Work	Notes
1	Alkaloids : introduction , physical & chemical properties & extraction	Tests for alkaloids	
2	Pyridine-piperidine , tropane alkaloids	Isolation of piperine from black pepper	
3	Tropane alkaloids cont. , quinoline alkaloids	Identification of piperine	
4	Isoquinoline alkaloids	Isolation of tropane alkaloids from Datura stramonium	
5	Indole alkaloids	Identification of tropane alkaloids	



6	Imidazole & steroidal alkaloids	Isolation of indole alkaloids from <i>Peganum harmala</i>	
7	Lupinane alkaloids , alkaloidal amines	Identification of indole alkaloids	
8	Purine bases , antibiotics : introduction	Isolation of caffeine from tea & coffee	
9	Natural sources , production , isolation & purification	Identification of caffeine	
10	Production cont. , biosynthesis pathways , classification	Isolation of isoquinoline alkaloids from <i>Fumaria</i>	
11	Biosynthesis of different classes of antibiotics	Identification of isoquinoline alkaloids	
12	Phytotherapy: introduction , principles	Un known examination	
13	Medicinal plants in selected health care systems	TLC of selected alkaloids	
14	Important natural products & phytomedicines used in pharmacy & medicine	Identification of alkaloids in some pharmaceutical preparations	
15	Important natural products cont.	Identification cont.	
16	Important natural products cont.		
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