Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University for Medicals and Applied Sciences

Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of

Phytochemistry

Course Code. (02.04.264)

2022

This Template is Developed and Approved by CAQA-Yemen, 2023

Prepared by:	Reviewed by	Head of the Department:	Quality Unit:	Dean
Dr. Salwa M. Raweh	Dr..labeb noman		Dr. Abdulelah Thabet	Dr. Ali Alyahawi

I. Course Identification and General Information:

1	**Course Title:**	Phytochemistry			
2	**Course Code & Number:**	02.04.264			
3	**Credit Hours:**	**Credit Hours**	**Theory Hours**		**Lab. Hours**
			Lecture	**Exercise**	
		3	2	--	2
4	**Study Level/ Semester at which this Course is offered:**	3rd Level / 1st Semester			
5	**Pre –Requisite (if any):**	Pharmacognosy I& II			
6	**Co –Requisite (if any):**	None			
7	**Program (s) in which the Course is Offered:**	Bachelor of Clinical Pharmacy & Pharm. D.			
8	**Language of Teaching the Course:**	English			
9	**Study System:**	Semester based System			
10	**Mode of Delivery:**	Full Time			
11	**Location of Teaching the Course:**	Faculty of Clinical Pharmacy			
12	**Prepared by:**	Dr. Salwa Raweh			
13	**Date of Approval:**	2023			

II. Course Description:

The course provides basic information on medicinal plants regarding classification and identification of their components, providing information about different methods of extraction, separation methods and chromatographic techniques and their applications; and on the importance of naturally occurring products from their chemical, pharmaceutical and therapeutic applications.

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III. Course Intended Learning Outcomes (CILOs) : Upon successful completion of the course, students will be able to:			Referenced PILOs Learning out of program
	A. Knowledge and Understanding:	**I, A or E**	
a1	Recognize the methods of extraction, chromatographic methods and other separation methods of the constituents of natural products such as alkaloids, terpenoids tannins and glycosides	I	A2
a2	Describe the chemical structure of alkaloids, terpenoids, and glycosides, their pharmacological properties (biological activities) and contraindications of them.	I	A1
	B. Intellectual Skills:		
b1	Correlate the chemical structure of natural products (alkaloids, terpenoids, steroids) with their pharmacological activity and predict of structural changes that modify the biological activity	A	B1, B2
b2	Research about suitable methods for extraction; isolation of different compounds from natural origin	A	B5
	C. Professional and Practical Skills:		
c1	Perform suitable methods for extraction; isolation of alkaloids , terpenoids, tannins and glycosides	A	C2
c2	Carry out different assay procedures for quantitative determination of phytochemicals in their origin or preparations	A	C1, C2
	D. Transferable Skills:		
d1	Develop life-long learning, research, from different sources, demonstrate critical thinking, problem solving and decision making abilities.	E	C2

(a) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment

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		Strategies
a1- Recognize the methods of extraction, chromatographic methods and other separation methods of the constituents of natural products such as alkaloids, terpenoids tannins and glycosides	- Lectures - Assignment - Interactive discussion - Seminars	Assignments Discussion Quiz Exam
a2- Describe the chemical structure of alkaloids, terpenoids, and glycosides, their pharmacological properties (biological activities) and contraindications of them.	- Lectures - Assignment - Interactive discussion - Seminars	Quiz Discussion Exam

(b) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	**Teaching strategies**	**Assessment Strategies**
b1- Correlate the chemical structure of natural products (alkaloids, terpenoids, steroids) with their pharmacological activity and predict of structural changes that modify the biological activity	- Lectures - Assignment - Interactive discussion - Seminars	Exam Assignment Quiz
b2- Research about suitable methods for extraction; isolation of different compounds from natural origin		

C Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
C1- Perform suitable methods for extraction; isolation of alkaloids, terpenoids, tannins and glycosides	- Lectures - Assignment - Interactive discussion - Seminars	Exam Assignment Quiz
C2- Carry out different assay procedures for quantitative determination of phytochemicals in their origin or preparations		

(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1- Develop life-long learning, research, from different sources, demonstrate critical thinking, problem solving and decision making abilities	- Seminars - discussion	Assignment Discussion Seminars

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I. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact hours
1	**Introduction, Extraction & chromatographic methods**	a1, a2, b2, b2, c1, d1	- Introduction, classification, and general concepts (adsorption and partition chromatography) - Separation techniques	2	4
2	**Alkaloids**	a1, a2, b2, b2, c1, d1	- Definition, classification, distribution, functions, function in plant, properties, extraction, uses. - **Phenylalkylamine alk**.; Ephedra. - **Tropolone alk.;** Colchicum, - **Pyridine and piperidine**; tobacco, Pepper, Pomegranate - **Tropane alk**.; Belladonna, Coca, - **Quinoline alk**; cinchona alk - **Isoquinoline alk**; opium alk**,** - **(Phenanthrene)**: morphine, Codeine, thebaine; **benzylisoquinoline alk:** papaverine; **phthalidisoquinoline**; ipecacuanha alk. - **Indol alk;** phystostigma,, ergot , Nux vomica, Vinca, Rauwolfia - **Purine alk**.; caffeine, theophylline, theobromine - **imidazol alk**; pilocarpus alk, **Terpenoid alk;** aconitine, taxol alk	3	6
	Tannins	a1, a2, b2, b2, c1,, c2 d1	- Definition**,** classification, structure, hydrolysable- and condensed-, complex and pseudo-tannins, distribution, biosynthesis, physico-chemical properties, extraction, characterization, biological properties, drug containing tannin	2	4
	Midterm Exam	a1, a2, b2, b2, c1, d1		1	2
3	**Volatile oils**	a1, a2, b2, b2, c1,, c2 d1	- Definition, distribution, physical properties, method of isolation, chemical composition, Pharmacological properties, - Drugs containing v.o	1	2

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4	**Glycosides**	a1, a2, b2, b2, c1,, c2 d1	- Definition, distribution, properties, classification and nomenclature, **Cardiac glycosides**; definition, structures, cardenolides, bufadienolids, structure of sugar moiety, structure activity relationship, Biogenesis of card. Gly., **Saponin gly.;** ; definition, classification, distribution, extraction, chemical and physical properties, characterization biological and pharmacological properties, drugs containing saponins - Anthraquinones gly; definition, classification, distribution, extraction, chemical and physical properties, characterization biological and pharmacological properties, drugs containing anthraquinones - **Flavonoid gly;** classification, chemical structure, physico-chemical properties, extraction, characterization, biological properties, rutin, hesperidin, flavonoid containing drugs. - **Cyanogentic gly;** cyanogenesis, distribution, structure, properties, detection, extraction, pharmacological activities, cyanogenetic plants. **Glucosinolates;** definition**,** distribution, structure, biogenesis, hydrolysis, toxicity and drug containing glucosinolates	3	6
5	**Terpenoids**	a1, a2, b2, b2, c1,, c2 d1	- Definition, classification, distribution, extraction, functions - **Monoterpenes**; Classification, extraction & characterization, plant containing **regular monoterpene** , valerian, olea eurropae**, Irregular monoterpene**, pyrethrum. - **Sesquiterpene**; Structure, chemical and biological properties; gossypol compound, sesquiterpene lactones; arnica, sweet wormwood - **Diterpene** Structure, chemical and biological properties; yews, - **Triterpenes** ;Classification,	3	6

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			structures, cucurbitacines - **Tetraterpenoids:** Biological origin, distribution, uses, drug containing teteraterpenoids		
6	**Final exam**	a1, a2, b2, b2, c1,, c2		1	2
Number of Weeks /and Units Per Semester				**16**	**32**

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours	Learning Outcomes (CILOs)
1	General Extraction & separation methods	1	2	a1, a2, c1, c2,
2	Adsorption chromatography; Column chromatography	1	2	a1, a2, c1, c2,
3	Partition chromatography; Thin layer chromatography	2	4	a1, a2, c1, c2,
4	Extraction and identification of alkaloids caffeine	1	2	a1, a2, c1, c2,
5	Extraction and identification of alkaloids derived from tropane (Stramonium)	1	2	a1, a2, c1, c2,
6	Mid-term exam	1	2	a1, a2, c1, c2,
7	Extraction and identification of tannins (Tea, Galls)	1	2	a1, a2, c1, c2,
8	Extraction and identification of volatile oils peppermint	1	2	a1, a2, c1, c2,
9	Extraction and identification of volatile oils (Thyme)	1	2	a1, a2, c1, c2,
10	Extraction and identification of cardiac gly. (Oleander)	1	2	a1, a2, c1, c2,
11	- Extraction and identification of saponins gly. (Christ's thorn, Fenugreek)	1	2	a1, a2, c1, c2,
12	- Extraction and identification of anthracene gly. (Senna, Aloe)	1	2	a1, a2, c1, c2,
13	- Extraction and identification of flavonoids (Orange, Ruta)	1	2	a1, a2, c1, c2,
14	- Extraction and identification of terpenoids (Colocynth)	1	2	a1, a2, c1, c2,
15	- **Final Exam**	1	2	a1, a2, c1, c2
Number of Weeks /and Units Per Semester		**16**	**32**	

C. Tutorial Aspect: (ان وجدت)

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	None			

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No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
Number of Weeks /and Units Per Semester				

V. Teaching Strategies of the Course:

- Lectures
- Assignment
- Interactive discussion
- Seminars

VI. Assessment Methods of the Course:

- Assignments
- Exam
- Quiz

VII. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	**Assignment 1:** Modern methods of isolations of natural compounds	a2, b1, b2, d1	3	2.5
2	**Assignment 2:** plants containing alkaloids used in medicine	a2, b1, b2, d1	7	2.5
3	**Assignment 3:** Plants containing tannins and volatile oils used in medicine	a2, b1, b2, d1	9	2.5
4	**Assignment 4:** Plants containing glycosides used in medicine	a2, b1, b2, d1	11	2.5
Total				10

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	**Assignments**	Week 3-12	10	10%	a1,a2, b1, c2, d1
2	**Practical Reports & Practical Mid-Semester Exam**	7th	15	15 %	a1, a2, c1,c2

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3	**Theoretical Mid-Semester Exam**	8th	10	20 %	a1, a2, b1, b2
4	**Final Exam (Practical)**	week 15	15	15 %	a1, a2, c1, c2
5	**Final Exam (Theoretical)**	Week 16	50	50%	a1, a2, b1, b2
	Total		100	100%	

IX. Learning Resources:

1- Required Textbook(s)

1- Evans W.C., Evans D. & Trease E., Saunders "Trease and Evans 'Pharmacognosy" (2009); 16th ed. Elsevier, New York
2- Jarald E.E. and Jarald S. E., "Textbook of Pharmacognosy and Phytochemistry" (2009); CBS Publishers & Distributors, New Delhi

2- Essential References.

1- Steven M. Colegate and Russell J. Molyneux. "Bioactive natural products: detection, isolation, and structural determination" (2008); 2nd ed, editor.

3- Electronic Materials and Web Sites *etc*.

1- http/www.Phytomania.org.
2- http/www.medicalbotanyintroduction.html.
3- http/www.botanical.com

X. Course Policies: (Based on the Uniform Students' By law (2007)

1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.

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6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply**.**
7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of Phytochemistry

Course No. (02.04.264)

2022/2023

I. Information about Faculty Member Responsible for the Course:							
Name of Faculty Member:		**Office Hours**					
Location& Telephone No.:							
E-mail:	salraweh@gamil.com	**SAT**	**SUN**	**MON**	**TUE**	**WED**	**THU**

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Quality Unit: Dr. Abdulelah Thabet

Dean: Dr. Ali Alyahawi

II. Course Identification and General Information:

1	**Course Title:**	Phytochemistry			
2	**Course Code & Number:**	02.04.264			
3	**Credit Hours:**	**Credit Hours**	**Theory Hours**		**Lab. Hours**
			Lecture	**Exercise**	
		3	2	--	2
4	**Study Level/ Semester at which this Course is offered:**	3rd Level / 1st Semester			
5	**Pre –Requisite (if any):**	Pharmacognosy I& II			
6	**Co –Requisite (if any):**	None			
7	**Program (s) in which the Course is Offered:**	Bachelor of Clinical Pharmacy & Pharm. D.			
8	**Language of Teaching the Course:**	English			
9	**Study System:**	Semester based System			
10	**Mode of Delivery:**	Full Time			
11	**Location of Teaching the Course:**	Faculty of Clinical Pharmacy			
12	**Prepared by:**	Dr. Salwa Raweh			
13	**Date of Approval:**				

III. Course Description:

The course provides basic information on medicinal plants regarding classification and identification of their components, providing information about different methods of extraction, separation methods and chromatographic techniques and their applications; and on the importance of naturally occurring products from their chemical, pharmaceutical and therapeutic applications.

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The course provides basic information on medicinal plants regarding classification and identification of their components, providing information about different methods of extraction, separation methods and chromatographic techniques and their applications; and on the importance of naturally occurring products from their chemical, pharmaceutical and therapeutic applications.

IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

	A**. Knowledge and Understanding:**
a1	Recognize the methods of extraction, chromatographic methods and other separation methods of the constituents of natural products such as alkaloids, terpenoids tannins and glycosides
a2	Describe the chemical structure of alkaloids, terpenoids, and glycosides, their pharmacological properties (biological activities) and contraindications of them.
	B**. Intellectual Skills:**
b1	Correlate the chemical structure of natural products (alkaloids, terpenoids, steroids) with their pharmacological activity and predict of structural changes that modify the biological activity
b2	Research about suitable methods for extraction; isolation of different compounds from natural origin
	C. Professional and Practical Skills:
c1	Perform suitable methods for extraction; isolation of alkaloids , terpenoids, tannins and glycosides
c2	Carry out different assay procedures for quantitative determination of phytochemicals in their origin or preparations
	D. Transferable Skills:
d1	Develop life-long learning, research, from different sources, demonstrate critical thinking, problem solving and decision making abilities.

V. Course Contents:

A. Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Number of Weeks	Contact hours
1	**Introduction, Extraction & chromatographic**	- Introduction, classification, and general concepts (adsorption and partition chromatography)	2	4

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	methods	- Separation techniques		
2	**Alkaloids**	- Definition, classification, distribution, functions, function in plant, properties, extraction, uses. - **Phenylalkylamine alk**.; Ephedra. - **Tropolone alk.;** Colchicum, - **Pyridine and piperidine**; tobacco, Pepper, Pomegranate - **Tropane alk**.; Belladonna, Coca, - **Quinoline alk**; cinchona alk - **Isoquinoline alk**; opium alk**,** - **(Phenanthrene)**: morphine, Codeine, thebaine; **benzylisoquinoline alk:** papaverine; **phthalidisoquinoline**; ipecacuanha alk. - **Indol alk;** phystostigma,, ergot , Nux vomica, Vinca, Rauwolfia - **Purine alk**.; caffeine, theophylline, theobromine - **imidazol alk**; pilocarpus alk, **Terpenoid alk;** aconitine, taxol alk	3	6
	Tannins	- Definition**,** classification, structure, hydrolysable- and condensed-, complex and pseudo-tannins, distribution, biosynthesis, physico-chemical properties, extraction, characterization, biological properties, drug containing tannin	2	4
	Midterm Exam		1	2
3	**Volatile oils**	- Definition, distribution, physical properties, method of isolation, chemical composition, Pharmacological properties, - Drugs containing v.o	1	2

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4	**Glycosides**	- Definition, distribution, properties, classification and nomenclature, **Cardiac glycosides**; definition, structures, cardenolides, bufadienolids, structure of sugar moiety, structure activity relationship, Biogenesis of card. Gly., **Saponin gly.;** ; definition, classification, distribution, extraction, chemical and physical properties, characterization biological and pharmacological properties, drugs containing saponins - Anthraquinones gly; definition, classification, distribution, extraction, chemical and physical properties, characterization biological and pharmacological properties, drugs containing anthraquinones - **Flavonoid gly;** classification, chemical structure, physico-chemical properties, extraction, characterization, biological properties, rutin, hesperidin, flavonoid containing drugs. - **Cyanogentic gly;** cyanogenesis, distribution, structure, properties, detection, extraction, pharmacological activities, cyanogenetic plants. **Glucosinolates;** definition**,** distribution, structure, biogenesis, hydrolysis, toxicity and drug containing glucosinolates	3	6
5	**Terpenoids**	- Definition, classification, distribution, extraction, functions - **Monoterpenes**; Classification, extraction & characterization, plant containing **regular monoterpene** , valerian, olea eurropae**,** **Irregular monoterpene**, pyrethrum. - **Sesquiterpene**; Structure, chemical and biological properties; gossypol compound, sesquiterpene lactones; arnica, sweet wormwood - **Diterpene** Structure, chemical and biological properties; yews, - **Triterpenes** ;Classification, structures, cucurbitacines - **Tetraterpenoids:** Biological origin,	3	6

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		distribution, uses, drug containing teteraterpenoids		
6	**Final exam**		1	2
Number of Weeks /and Units Per Semester			16	32

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours
1	General Extraction & separation methods	1	2
2	Adsorption chromatography; Column chromatography	1	2
3	Partition chromatography; Thin layer chromatography	2	4
4	Extraction and identification of alkaloids caffeine	1	2
5	Extraction and identification of alkaloids derived from tropane (Stramonium)	1	2
6	Mid-term exam	1	2
7	Extraction and identification of tannins (Tea, Galls)	1	2
8	Extraction and identification of volatile oils peppermint	1	2
9	Extraction and identification of volatile oils (Thyme)	1	2
10	Extraction and identification of cardiac gly. (Oleander)	1	2
11	- Extraction and identification of saponins gly. (Christ's thorn, Fenugreek)	1	2
12	- Extraction and identification of anthracene gly. (Senna, Aloe)	1	2
13	- Extraction and identification of flavonoids (Orange, Ruta)	1	2
14	- Extraction and identification of terpenoids (Colocynth)	1	2
15	- **Final Exam**	1	2
Number of Weeks /and Units Per Semester		**16**	**32**

No.	Tasks/ Experiments	Week Due	Contact Hours
1	General Extraction & separation methods	1	2
2	**Adsorption chromatography; Column chromatography**	1	2
3	**Partition chromatography; Thin layer chromatography**	2	4
4	**Extraction and identification of alkaloids caffeine**	1	2
5	**Extraction and identification of alkaloids derived from tropane (Stramonium)**	1	2
6	Mid-term exam	1	2
7	**Extraction and identification of tannins (Tea, Galls)**	1	2

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No.	Tasks/ Experiments	Week Due	Contact Hours
8	**Extraction and identification of** volatile oils peppermint	1	2
9	**Extraction and identification of** volatile oils (Thyme)	1	2
10	**Extraction and identification of cardiac gly. (Oleander)**	1	2
11	- **Extraction and identification of saponins gly. (Christ's thorn, Fenugreek)**	1	2
12	- **Extraction and identification of** anthracene gly. (Senna, Aloe)	1	2
13	- **Extraction and identification of** flavonoids (Orange, Ruta)	1	2
14	- **Extraction and identification of terpenoids (Colocynth)**	1	2
15	- **Final Exam**	**1**	2
Number of Weeks /and Units Per Semester		**16**	32

C. Tutorial Aspect:

No.	Tutorial	Number of Weeks	Contact Hours
1	None		
Number of Weeks /and Units Per Semester			

VI. Teaching Strategies of the Course:

- Lectures
- Assignment
- Interactive discussion
- Seminars

VII. Assessment Methods of the Course:

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- Assignments
- Exam
- Quiz

VIII. Assignments:

خطأ! لم يتم العثور على مصدر المرجع.

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IX. Schedule of Assessment Tasks for Students During the Semester:

خطأ! لم يتم العثور على مصدر المرجع.

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	**Assignments**	Week 3-12	10	10%	a1,a2, b1, c2, d1
2	**Practical Reports & Practical Mid-Semester Exam**	7th	15	15 %	a1, a2, c1,c2
3	**Theoretical Mid-Semester Exam**	8th	10	20 %	a1, a2, b1, b2
4	**Final Exam (Practical)**	week 15	15	15 %	a1, a2, c1, c2
5	**Final Exam (Theoretical)**	Week 16	50	50%	a1, a2, b1, b2
	Total		100	100%	

X. Learning Resources:

خطأ! لم يتم العثور على مصدر المرجع.

1- Required Textbook(s)	
	1. Evans W.C., Evans D. & Trease E., Saunders "Trease and Evans 'Pharmacognosy" (2009); 16th ed. Elsevier, New York 2. Jarald E.E. and Jarald S. E., "Textbook of Pharmacognosy and Phytochemistry" (2009); CBS Publishers & Distributors, New Delhi
2- Essential References.	
	1- Steven M. Colegate and Russell J. Molyneux. "Bioactive natural products : detection, isolation, and structural determination" (2008); 2nd ed, editor.
3- Electronic Materials and Web Sites *etc*.	
	1- http/www.Phytomania.org. 2- http/www.medicalbotanyintroduction.html. 3- http/www.botanical.com

XI. Course Policies: (Based on the Uniform Students' Bylaw (2007)

1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** A student will be considered late if he/she is not in class after 10 minutes of the start time of class.

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3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply**.**
7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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