

Course Syllabus

1	Course title	Pharmacognosy
2	Course number	1201321
3	Credit hours	2 theory
	Contact hours (theory, practical)	2 theory and separate 3 hr (= 1 credit hr) practical course per week
	<u>Course Level /Hours according to Jordan National Qualifications Framework (JNQF) Standards</u>	7th/80 hr
4	Prerequisites/corequisites	General Biology - 2 (0304102), Biochemistry - 1 (1203251)
5	Program title	Pharmacy, PharmD
6	Program code	
7	Awarding institution	JU
8	School	Pharmacy
9	Department	Pharmaceutical Sciences
10	Course level	3 rd year
11	Year of study and semester (s)	1 st semester, 3 rd year



12	Other department (s) involved in teaching the course	None
13	Main teaching language	English
14	Delivery method	Face to face (Synchronous lecturing)
15	Online platforms(s)	<input type="checkbox"/> <u>Moodle</u> <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Others.....
16	Issuing/Revision Date	4.7.2023

17 Course Coordinator:

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18 Other instructors:



Name: Dr. Yahia Tabaza

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19 Course Description:

This course aims at acquainting students with the basic knowledge of pharmacognosy science and medicinal plants used in pharmacy and therapy. The course involves two main topics; the first devoted to subjects deals generally with natural drug products, their classification, production, evaluation and their general chemistry. The second emphasizes upon the products of plant primary metabolism including carbohydrates, lipids, and amino acids and their derivatives.

20 Course aims and outcomes:

A- Aims:

1. Understanding the definition and material of pharmacognosy science and its applications in therapy and pharmacy.
2. Acquainting knowledge of natural drugs, their classification, production, evaluation as well as their general chemistry.
3. Understanding type, chemistry, use and applications of products of plant primary metabolism including carbohydrates, lipids, amino acids and their derivatives.



B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

Descriptors	CLO no.	SLOs of the program (PLOs)	PLO (1) Learner	PLO (2) Manufacturer	PLO (3) Problem-Solver	PLO (4) Communicator	PLO (5) Professional
		SLOs of the course (CLOs)					
Knowledge	K1	Recognize the science of pharmacognosy and the roles of natural products (e.g. medicinal plants and herbs) in pharmacy and therapy.	X				
	K2	Recognize the knowledge of plant primary metabolites and their importance as natural products.	X				
	K3	Recognize practical knowledge of methods of identification, classification, production, chemical and physical evaluation of natural drug products.	X				
	K4	Identify natural products of plant primary metabolism and their applications in therapy, pharmacy and food industry.	X				
Skills	S1	Construct a literature survey, with assessment of specific information about medicinal plants and natural products, and data collection of others' research to prepare a group common report.			X		
Competencies	C1	Demonstrate responsibility, accountability and commitment by respecting professors and classmates and complying with relevant university regulations			X		

21. Topic Outline and Schedule:

Week	Lecture	Topic	Student Learning Outcomes (CLOs)	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	Introduction to Pharmacognosy:	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
	1.2	- Definitions and materials of pharmacognosy science	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
	1.3	- Roles of natural products in modern medicine	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
	1.4	- Plant nomenclature and taxonomy	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
2	2.1	- Production (preparation) and sources of natural drugs	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
	2.2	- Classification of natural drugs	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
	2.3	- Classification of natural drugs	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
3	3.1	- Classification of natural drugs	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
	3.2	- Quality and evaluation of natural drugs (Organoleptic, Microscopical, Chemical, etc.)	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
	3.3	- Chemistry and variability factors	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
	3.4	- Photosynthesis	K1-K4, S1, C1	Face to face			Exams and oral discussions	1-3
4		Chemistry of natural products	K1-K4	Face to face			Exams	4-5

	4.2	Introduction to chemistry of natural products	K1-K4	Face to face			Exams	4-5
		Carbohydrates	K1-K4	Face to face			Exams	4-5
	4.3	Carbohydrates - Introduction Monosaccharides - Introduction	K1-K4	Face to face			Exams	4-5
	4.4	Monosaccharides - Chemistry	K1-K4	Face to face			Exams	4-5
5	5.1	Monosaccharides - Examples	K1-K4	Face to face			Exams	4-5
	5.2	Oligosaccharides	K1-K4	Face to face			Exams	4-5
	5.3	Polysaccharides - 1	K1-K4	Face to face			Exams	4-5
	5.4	Polysaccharides - 2	K1-K4	Face to face			Exams	4-5
6	6.1	Aminoglycosides and Lincosamides	K1-K4	Face to face			Exams	4-5
		Lipids	K1-K4	Face to face			Exams	4-5
	6.2	Introduction to lipids	K1-K4	Face to face			Exams	4-5
	6.2	Aldol and Claisen Reactions	K1-K4	Face to face			Exams	4-5
	6.3	Fatty Acids - Introduction and Biosynthesis	K1-K4	Face to face			Exams	4-5
	6.3	Fatty Acids - Triglycerides Fatty Acids - Phospholipids Fatty Acids - Fixed oils	K1-K4	Face to face			Exams	4-5
	6.4	Fatty Acids - Unsaturated Fatty Acids Fatty Acids - Uncommon Fatty Acids	K1-K4	Face to face			Exams	4-5
7	7.1	Eicosanoids	K1-K4	Face to face			Exams	4-5

22 Evaluation Methods:

Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	CLOs	Period (Week)	Platform
Midterm exam	30	1.1-3.4	K1-K4	During the midterm exams period	On campus
Quiz	10	1.1-3.4	K1-K4	6 th week	Moodle
Oral discussion	10	1.1-3.4	S1, C1	3 rd week	On campus
Final exam	50	4.2-7.1	K1-K4	During the final exams period	On campus

23 Course Requirements

Students should have:

- Computer
- Internet connection
- Active university account on Moodle (e-learning) website
- Active university account on Microsoft Teams

A Course Policies:

A- Attendance policies:

Attendance: Mandatory.

University regulations will be applied

B- Absences from exams and handing in assignments on time:

University regulations will be applied

C- Health and safety procedures: NA

D- Honesty policy regarding cheating, plagiarism, misbehavior:

The participation in and/or the commitment of cheating will lead to applying all of the following penalties together

- 1) Failing the subject he/she cheated at



- 2) Failing the other subjects taken in the same course
- 3) Not allowed to register for the next semester. The summer semester is not considered as a semester

E- Grading policy:

See 22. Evaluation methods

F- Available university services that support achievement in the course:

- Classrooms, internet classes

25 References:

A- Required book(s), assigned reading and audio-visuals:

SN	ISBN	Title	Author	Year
1	1-898298-63-7	Pharmacognosy, Phytochemistry, Medicinal plants	Jean Bruneton	1999 (2 nd Ed)
2	971-05-0211-5	Pharmacognosy	V.E. Tyler, L.R. Brady, and J.E. Robbers	1981 (8 th Ed)
3	0-7020-2617-4	Trease and Evans Pharmacognosy (2000, 2002, 2004, 2005).	by W.C. Evans	2000 (15 th Ed)
4	978-0-470-74168-9	Medicinal Natural Products	Paul Dewick	2009 (3 rd Ed)
5	978-81-312-2298-0	Textbook of Pharmacognosy and Phytochemistry	Shah and Seth	2010 (1 st)

B- Recommended books, materials, and media:

26 Additional information:

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Name of Course Coordinator: Dr. Khaled Tawaha	Signature: Khaled	Date: 4.7.2023
Head of Curriculum Committee/Department: -----	Signature: -----	---
Head of Department: -----	Signature: -----	-
Head of Curriculum Committee/Faculty: -----	Signature: -----	-
Dean: -----	Signature: -----	