



Jordan University of Science and Technology

Faculty of Pharmacy

Pharmacy Department

PHAR334 Pharmacognosy And Phytochemistry

Second Semester 2022-2023

Course Catalog

3 Credit Hours. This course will provide students with basic knowledge and understanding of the chemistry of crude drugs and types of plants constituents, particularly those which are active pharmacologically and are used in medical treatment or those used in cosmetics. The scientific name, English, Arabic and local name, part/s used, occurrence, description, main constituent/s, and main uses for each drug. Isolation of the main active constituent/s, chemical structure, properties, tests of identify, and action and uses.

Text Book

Title	Pharmacognosy
Author(s)	G. E. Trease and W. C. Evans
Edition	15th Edition
Short Name	Ref#1
Other Information	2009

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref#2	Fundamentals of Pharmacognosy and Phytotherapy	Michael Heinrich, Joanne Barnes, Simon Gibbons, Elizabeth M. Williamson	2nd Edition	2012
Ref#3	Pharmacognosy	- V.E Tyler, L.R. Brady and J.E. Robbers	8th Edition	

Instructor

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Instructor

Name	Dr. Zeinab AlSubeh
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Class Schedule & Room

<p>Section 1: Lecture Time: Sun, Tue : 11:30 - 12:30 Room: D4203</p> <p>Section 2: Lecture Time: Sun, Tue : 13:30 - 14:30 Room: D4203</p> <p>Section 4: Lecture Time: Mon, Wed : 13:00 - 14:00 Room: D4202</p>
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Prerequisites		
Line Number	Course Name	Prerequisite Type
303232	PHAR323 Medicinal Chemistry 2	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	General Introduction	Chapter 1 From Ref#3
Week 2	Carbohydrates	Chapter 21 From Ref#1
Week 3	Glycosides: Introduction, Extraction and Isolation, Classification, Chemical structure, Tests of identity and uses of simple phenolic compounds containing drugs	Chapter 22 From Ref#1
Week 4	Tannins and Coumarins containing drugs	Chapter 22 From Ref#1
Week 5	Anthraquinones and flavonoids- containing drugs	Chapter 22 From Ref#1
Week 6	Saponins and cardioactive drugs-containing drugs	Chapter 24 From Ref#1
Week 7	Cyanogenetic glycosides and thioglycosides-containing drugs	Chapter 26 From Ref#1
Week 8	Extraction and Isolation, Classification, and Chemistry of V. oils, Chemical Structure, Tests of identity, Physical properties and uses of Volatile oils and Resin-Containing drugs	Chapter 23 From Ref#1
Week 9	Extraction and Isolation, Chemical Structure, Tests of Identity, Properties, and uses of Miscellaneous isoprenoids, Bitter Principles, Coloring and flavoring agents ? Containing drugs	Chapter 26 From Ref#1
Week 10	Biological active compounds from marine organisms: Pesticides, Hallucinogenic plants, Tumor inhibitors from plants.	Chapter 16 From Ref#1
Week 11	Alkaloids: introduction, Classification, Extraction and Isolation, Physical and Chemical properties, Chemical Structure tests of identity, and uses of:	Chapter 27 From Ref#1
Week 12	Alkaloids of the Phenylalkamine group, Pyridine, Piperidine and Pyridone- Containing drugs	Chapter 27 From Ref#1
Week 13	Alkaloids of the Tropane group, Quinoline and Isoquinoline- Containing drugs	Chapter 27 From Ref#1
Week 14	Alkaloids of the Indole group, Carboline and Imidazole- Containing drugs	Chapter 27 From Ref#1
Week 15	Alkaloids of the purine group Steroidal alkaloids, Terpenoid alkaloids, Pyrolizidine alkaloids and the Tropolone ? Containing drugs	Chapter 27 From Ref#1

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Explain the history, scope and basic terminology of Pharmacognosy [1PLO1.1]	5%	

Identify the different classes of natural products and the structural features of pure compounds [1PLO1.1]	40%	
Differentiate between the different names of medicinal plants, their constituents, and occurrences [1PLO1.1]	30%	
Explain the different extraction schemes for each class/ plant of natural products [1PLO1.1]	20%	
Justify the therapeutic value and toxicity for different classes of natural products [1PLO4.1]	5%	

Relationship to Program Student Outcomes (Out of 100%)															
PLO1.1	PLO2.1	PLO3.2	PLO3.3	PLO2.2	PLO2.3	PLO2.4	PLO3.1	PLO3.4	PLO3.5	PLO3.6	PLO4.1	PLO4.2	PLO4.3	PLO4.4	PLO5.1
95											5				

Evaluation	
Assessment Tool	Weight
First Exam	30%
Second Exam	25%
Activities	5%
Final Exam	40%

Policy	
Communicating with Instructors	<ul style="list-style-type: none"> - Students should communicate through their official JUST emails. Communication through personal email accounts (yahoo, Gmail, Hotmail, etc.) or social media will NOT be accepted, and no response will be provided. - Students are required to check their emails and the E-learning page of the course regularly for announcements and notifications.
Exams	<ul style="list-style-type: none"> - All exams are closed books and notes. - The final exam is comprehensive (covers all the material). - The first, second, and midterm incomplete exams need approval from the departments' heads. - The final incomplete exams need approval from the dean.
Cheating	<p>The commitment of the acts of cheating and deceit such as copying during examinations altering examinations for re-grade, plagiarism of homework assignments, and in any way representing the work of others as your own is dishonest and will not be tolerated. Standard JUST policy will be applied</p> <p>المادة 7: إذا ضبط الطالب أثناء الامتحان أو الاختبار متلبساً بالغش فتوقع عليه العقوبات التالية مجتمعة: أ- اعتباره راسباً في ذلك الامتحان أو الاختبار. ب- الغاء تسجيله في بقية المسابقات المسجل لها في ذلك الفصل. ج- فصله من الجامعة لمدة فصل دراسي واحد، و هو الفصل التالي للفصل الذي ضبط فيه</p>
Attendance	<ul style="list-style-type: none"> - Attendance is mandatory and will be recorded regularly. - Excellent attendance is expected. - Students who miss more than 20% of the classes will be dropped from the course as per JUST policy. - If you miss class, it is your responsibility to find out about any announcements or assignments you may have missed.
Active learning and students' participation	<ul style="list-style-type: none"> - Students are expected to actively participate in class discussions.

Classroom Etiquette	<ul style="list-style-type: none"> - Respect: Respect people, places, and things. Raise your hand to speak. Listen respectfully. Food and drink are not permitted in class. Do not engage in aside conversations. - Participation or Disruption: Do not hesitate to ask questions at any time, especially if you are unsure of something. Listen to other students' questions to avoid asking the same question five minutes later. Allow your classmates to participate in class discussions and refrain from taking advantage of all opportunities for active participation. Cell Phones and Electronic Devices: Texting is not permitted in class. The use of cell phones, smartphones, or other mobile communication devices is disruptive and is therefore prohibited during class without permission. Your phone should be turned off. If you must keep your phone on, you should set it to vibrate or silent mode and leave class if you receive an emergency call. Except in emergencies, those using such devices must leave the classroom for the remainder of the class period. Do not use your laptop in class for browsing the Internet or using social media while in class. - Missing a Class: Do not miss classes. It is not appropriate to ask the professor if you missed anything important if you miss class. Obviously, something of importance was missed, you missed a whole class! Whenever you are absent from class, it is your responsibility to make up the work and to get notes, not your professor?s. If you need to leave early, notify the instructor. Be Punctual: Make sure you arrive to class on time.
Virtual Classroom Etiquette	<ul style="list-style-type: none"> - Be on time to class. - Be in a quiet place and comfortable space. - Mute your microphone when you are not speaking. - Turn on your video (optional). - Raise your virtual hand should you have any questions or want to contribute to class discussion. - It is the responsibility of students to secure internet connections for their online courses to avoid interruptions and inconvenience during class time.
Email Etiquette	<ul style="list-style-type: none"> - Type your email in the body of the email NOT in the subject line. - Provide a clear subject line. Keep it short and to the point, but not vague. Name, class, and what the email is specifically about should be in the subject line. - Body of the email: Your emails should always start with a formal greeting like you would in a letter, be brief (one screen length), check your spelling/grammar/punctuation, use a professional font (not decorative), and include a salutation aligned with your message (Thank you or Sincerely). - Avoid sending an email to your professor asking about grades or complaining about them. Schedule an appointment to meet in person to discuss areas for improvement if you have inquiries. - Consider the impression your tone will make in the email. It is recommended waiting 24 hours before sending an email or responding to an email if you are emotionally charged. - It is not appropriate to write in ALL CAPS. This conveys the impression that you are shouting at the recipient. - Make sure you read and reread your email before sending it. Make sure your emails are grammatically correct, have proper titles, and are properly spelled. - If you have multiple questions or the message runs long, you might consider revising the message or scheduling a face-to-face meeting. - You should double-check your ATTACHMENTS. Refer to your attachments within the body of your email. It is advisable to avoid attaching large files and to consider sending the document as a PDF. - Please allow sufficient time for a response. The sender and receiver should both allow sufficient time. As a rule of thumb, 24 work hours should be given. If sending emails after official work hours or during formal vacations, a delay in response is expected. Following that, if no response is received, you can follow up.