



Jordan University of Science and Technology

Faculty of Pharmacy

Pharmacy Department

PHAR323 Medicinal Chemistry 2 - JNQF Level: 7

First Semester 2023-2024

Course Catalog

3 Credit Hours. The course covers the structure-activity relationships, physicochemical properties, and pharmacological activities of drugs used to treat cardiovascular disease, diabetes, allergy, and ulcer. Opioids, non-steroidal, and steroidal anti-inflammatory drugs will be covered as well. Besides, the concept of rational drug design and strategies applied during the drug development process will be covered via discussing selected case studies.

Text Book

Title	Foye's principles of medicinal chemistry
Author(s)	Thomas L. Lemke, David A. Williams
Edition	8th Edition
Short Name	Ref #1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	An Introduction to Medicinal Chemistry	Graham Patrick	7th Edition	
Ref #3	Wilson and Gisvold's textbook of Organic Medicinal and Pharmaceutical Chemistry	John H. Block, John M. Beale	12th Edition	

Instructor

Name	Dr. Islam AlKhalwaldeh
Office Location	P2 L-2
Office Hours	Sun : 10:30 - 11:30 Mon : 09:30 - 11:00 Mon : 11:30 - 13:00 Tue : 10:30 - 11:30 Thu : 10:30 - 11:30
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Instructor

Name	Dr. LARA ALFAKHORI
Office Location	-
Office Hours	Sun : 09:00 - 11:00 Mon : 14:00 - 15:00 Tue : 11:00 - 12:00 Thu : 10:00 - 12:00
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Class Schedule & Room

Section 1: Lecture Time: Sun, Tue : 12:30 - 13:30 Room: D4203 Section 3: Lecture Time: Mon, Wed : 13:00 - 14:00 Room: N4201
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Prerequisites		
Line Number	Course Name	Prerequisite Type
302243	PHAR224 Medicinal Chemistry 1	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Antihypertensive drugs_Diuretics	Chapter 22 From Ref #1
Weeks 2, 3	Antihypertensive drugs_Angiotensin converting enzyme inhibitors	Chapter 23 From Ref #1
Week 4	Antihypertensive drugs_Angiotensin II receptor antagonists	Chapter 23 From Ref #1
Week 4	Antihypertensive drugs_Calcium channel blockers	Chapter 23 From Ref #1
Week 5	Antihyperlipidemic drugs	Chapter 25 From Ref #1
Weeks 6, 7	Insulin and oral hypoglycemic agents	Chapter 27 From Ref #1
Weeks 7, 8	H1-Antihistamines	Chapter 32 From Ref #1
Week 9	H2-Antihistamines	Chapter 32 From Ref #1
Week 9	Proton pump inhibitors	Chapter 32 From Ref #1
Weeks 10, 11	Opioid analgesics	Chapter 20 From Ref #1
Weeks 12, 13	Non-steroidal anti-inflammatory drugs	Chapter 31 From Ref #1
Week 14	Steroidal hormones and therapeutically related compounds	Chapter 28 From Ref #1

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Predict, based on structure, the pharmacodynamics and pharmacokinetic profiles of cardiovascular drugs, as well as their physicochemical properties-activity relationship. [1PLO1.1] [1L7K1, 1L7S1, 1L7S2]	39%	First Exam, Second Exam, Final Exam
Predict, based on structure, the pharmacodynamics and pharmacokinetic profiles of antidiabetic agents, as well as their physicochemical properties-activity relationship. [1PLO1.1] [1L7K1, 1L7S1, 1L7S2]	14%	Second Exam, Final Exam
Predict, based on structure, the pharmacodynamics and pharmacokinetic profiles of antihistamines and peptic ulcer drugs, as well as their physicochemical properties-activity relationship. [1PLO1.1] [1L7K1, 1L7S1, 1L7S2]	17%	Second Exam, Final Exam
Predict, based on structure, the pharmacodynamics and pharmacokinetic profiles of NSAIDs and steroidal hormones, as well as their physicochemical properties-activity relationship. [1PLO1.1] [1L7K1, 1L7S1, 1L7S2]	16%	Final Exam
Predict, based on structure, the pharmacodynamics and pharmacokinetic profiles of opioid analgesics, as well as their physicochemical properties-activity relationship. [1PLO1.1] [1L7K1, 1L7S1, 1L7S2]	9%	Final Exam
Analyze the Structure-Activity Relationship (SAR) within a set of compounds and predict their corresponding physicochemical properties-activity relationship. [1PLO3.1] [1L7K1, 1L7S1, 1L7S2]	5%	Active Learning

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								

Relationship to NQF Outcomes (Out of 100%)		
L7K1	L7S1	L7S2
33.33	33.33	33.33

Evaluation	
Assessment Tool	Weight
First Exam	28%
Second Exam	27%
Final Exam	40%
Active Learning	5%

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>Prohibited; 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 6 من نظام تأديب الطلبة لسنة 1999: إذا ضبط الطالب أثناء الامتحان أو الاختبار متلبساً بالغش فتوقع عليه العقوبات التالية مجتمعة</p> <p>أ- اعتباره راسباً في ذلك الامتحان أو الاختبار</p> <p>ب- الغاء تسجيله في بقية المساقات المسجل لها في ذلك الفصل</p> <p>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.
Withdraw	The last day of courses withdrawal (without reimbursement of tuition fees) is last day before final exams.
Classroom Etiquette	<ul style="list-style-type: none"> - Respect <ul style="list-style-type: none"> o Respect people, places, and things. o Raise your hand to speak. o Listen respectfully. o Food and drink are not permitted in class. o Do not engage in aside conversations. - Participation or Disruption: <ul style="list-style-type: none"> o Do not hesitate to ask questions at any time, especially if you are unsure of something. o Listen to other students' questions to avoid asking the same question five minutes later. o Allow your classmates to participate in class discussions and refrain from taking advantage of all opportunities for active participation. - Cell Phones and Electronic Devices: <ul style="list-style-type: none"> o Texting is not permitted in class. o The use of cell phones, smartphones, or other mobile communication devices is disruptive and is therefore prohibited during class without permission. o 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. o Except in emergencies, those using such devices must leave the classroom for the remainder of the class period. o Do not use your laptop in class for browsing the Internet or using social media while in class. - Missing a Class <ul style="list-style-type: none"> o 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! o Whenever you are absent from class, it is your responsibility to make up the work and to get notes, not your professor's. o If you need to leave early, notify the instructor. - Be Punctual <ul style="list-style-type: none"> o Make sure you arrive to class on time.

