



Jordan University of Science and Technology
Faculty of Pharmacy
Pharmacy Department

PHAR726 Analytical Techniques In Drug Discovery

Second Semester 2023-2024

Course Catalog

2 Credit Hours. This course will introduce the student to analytical process and various analytical techniques used for pharmaceutical and drug discovery applications. The application of three key types of analysis: separation, identification and quantification, and process of selection of a valid method of analysis will be described. Spectroscopic techniques and their applications involving absorption, fluorescence, luminescence and emission will be discussed. Basic knowledge of separation techniques such HPLC, GC and electrophoresis will be also covered. The course will also introduce the student to various techniques used in bioanalysis

Teaching Method: On Campus

Text Book

Title	Principles in Instrumental Analysis
Author(s)	Douglas Skoog, James Holler, Stanley Grouch
Edition	7th Edition
Short Name	Ref #2
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #1	Pharmaceutical Analysis: A Textbook for Pharmacy Students and Pharmaceutical Chemists	David G. Watson	5th Edition	

Instructor

Name	Dr. Aref Zayed
Office Location	-
Office Hours	
Email	alzayed@just.edu.jo

Class Schedule & Room

Section 1:
 Lecture Time: Mon, Wed : 11:30 - 12:30
 Room: القاعة الزرقاء/صيدلة

Tentative List of Topics Covered

Weeks	Topic	References
	Drug Discovery and Development: Overview	
	Fundamentals of Analytical Sciences : Selecting a Method	
	Control of the Quality of the Analytical Methods	
	In vitro Bioassay Development	
	UV Spectroscopy in Drug Discovery	
	Fluorescence in Drug Discovery	

	Chromatography in Drug Discovery	
	Immunoassay in Drug Discovery	
	Gel Electrophoresis and Western Blotting in Drug Discovery	
	Flow Cytometry	
	In vitro Analytical Assays For DDI in Drug Discovery	
	Analytical Techniques for Biologic Drugs	

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Define the key stages of drug discovery and development and the roles of analytical techniques at these stages.	20%	
Explain the principles of quality control for analytical techniques in drug discovery	10%	
Assess the strengths and limitations of different analytical techniques in drug discovery.	15%	
Synthesize information from various analytical techniques to make informed decisions in drug discovery	20%	
Identify basic principles of analytical techniques used in drug discovery applications	20%	
Apply suitable analytical techniques in drug discovery and development.	15%	

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	

Evaluation	
Assessment Tool	Weight
Midterm Exam	40%
Quizzes/ Assignments	10%
Project Report	20%
Project Presentation	10%
Final Exam	20%

Policy	
Course Policy	<p>Exams: All exams are closed book and notes. The final exam is comprehensive (covers all the material). Incomplete exams need approval from the Dean of Faculty</p> <p>Cheating: Prohibited; and in case of cheating the student will be subject to punishment according to the regulations.</p> <p>Attendance: According to the policy: Absence more than 20% of the lectures, the student is dropped the course electronically.</p> <p>Participation: Participation, answering questions will be taken in consideration.</p> <p>Withdraw: There is a dead time for withdrawing the course through the student services. The student must follow up that dead time with the registration unit based on the academic year calendar.</p>

Date Printed: 2024-02-24