



Jordan University of Science and Technology
Faculty of Pharmacy
Pharmacy Department

PHAR126 Pharmaceutical Analytical Chemistry - JNQF Level: 6

First Semester 2023-2024

Course Catalog

2 Credit Hours. This course will introduce students to fundamental concepts and problem solving related to conventional analytical methods in pharmaceutical applications. Throughout this course, topics relevant to analysis will be covered, including fundamentals of the analytical process, scientific expressions for concentrations of solutions and pharmaceutical calculations, chemical measurements, experimental error, fundamentals of acids and bases, and chemical equilibrium, in addition to acid-base titration. Practical examples of official analytical on pharmacopeias will also be presented.

Text Book

Title	Analytical Chemistry
Author(s)	Gary D. Christian
Edition	7th Edition
Short Name	Texbook
Other Information	

Instructor

Name	Prof. Adnan Massadeh
Office Location	P1 L1
Office Hours	Sun : 09:00 - 10:00 Mon : 09:30 - 11:30 Tue : 09:00 - 10:00 Wed : 09:30 - 11:30
Email	massadeh@just.edu.jo

Class Schedule & Room

Section 1:
 Lecture Time: Mon : 13:00 - 14:00
 Room: P1102

Prerequisites

Line Number	Course Name	Prerequisite Type
911031	CHEM103 General Chemistry	Prerequisite / Study
821036	HSS103CHEM General Chemistry	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Weeks 1, 2	Analytical Objectives, or: What Analytical Chemists Do	From Textbook
Weeks 3, 4	Statistics and Data Handling	From Textbook
Week 5	Stoichiometric Calculations	From Textbook
Week 6	Overview of Some Analytical Methods: Titrimetric Methods of Analysis	From Textbook
Weeks 7, 8	General Concepts of Equilibrium	From Textbook

Weeks 9, 10	Acid Base Equilibria	From Textbook
Weeks 11, 12, 13, 14	Acid-Base Titrations	From Textbook

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Utilize principles of titration analyses, including acid-base and oxidation-reduction titrations in solving subject-related problems [1PLO1.1] [1L6K1]	20%	First, Second
Identify all requirements for quantitative analysis [1PLO1.1] [1L6K1]	20%	First, Second
Apply mathematical skills in expressing solutions including solving problems related to quantity of compounds in solutions [1PLO3.1] [1L6K1, 1L6S3]	40%	First, Second
Apply mathematical skills in solving problems related to buffers [1PLO1.1] [1L6K1]	15%	First, Active learning
Interpret results based on statistics-based evaluations [1PLO1.1] [1L6K1, 1L6S3]	5%	First, Second

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
60							40								

Relationship to NQF Outcomes (Out of 100%)	
L6K1	L6S3
77.5	22.5

Evaluation	
Assessment Tool	Weight
First	30%
Second	25%
Final	40%
Active learning	5%

Policy	
Exams	<ul style="list-style-type: none"> - The format for the exams is generally (but NOT always) as follows: Multiple-choice and short essay questions - Make-up exams are ESSAY NOT MULTIPLE-CHOICE - Exam and quiz questions will be in English, and answers MUST BE in English - Grades will not be shared via e-mails - All exams are closed book and notes - The final exam is comprehensive (covers all the material) - Instructor should return exam papers graded to students not after the week following the exam date - Incomplete exams should not be given unless there is a valid excuse, and they need approval from the dean - Arrangements to take an exam at a time different than the one scheduled MUST BE made prior to the scheduled exam time
Cheating	The commitment of the acts of cheating and deceit such as copying during examinations and quizzes, 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 policies will be applied.
Attendance	<ul style="list-style-type: none"> - Excellent attendance is expected - JUST policy requires the faculty member to assign ZERO grade (35) if a student misses 20% the classes - If you miss class, it is your responsibility to find out about any announcements or assignments you may have missed
Participation	Students are expected to be proactive and to be fully engaged in interactive class discussions
Withdrawal	Deadlines for dropping course are provided in the academic calendar of the year
Smart device policies	<ul style="list-style-type: none"> - The use of cell phones, smart phones, or other mobile communication devices is disruptive, and is therefore prohibited during class without permission - Except in emergencies and during online in-class quizzes, those using such devices must leave the classroom for the remainder of the class period - Those using smart devices as laptops and iPads for lecture notes should set at the very back of the classroom to avoid distractions

Additional notes	<p>- Nondiscrimination Statement: JUST is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of the University's goal of academic excellence, the University seeks to develop and nurture diversity. As your instructor, I believe that diversity among many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life</p> <p>- The Jordan University of Science and Technology (JUST) is an English-speaking institution; all sorts of communication, lectures, exams and quizzes will primarily be in English</p>
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Date Printed: 2024-01-12