



Jordan University of Science and Technology
Faculty of Science & Arts
Chemistry Department

CHEM437 Chemical Separation Methods

Summer Semester 2019-2020

Course Catalog

2 Credit Hours. The purpose of this course is to introduce the student and familiarize him with methods and techniques employed in separation, purification, and analysis of chemicals. The main topics that will be covered include solvent extraction and chromatographic methods. The first part of the course discusses fundamentals of analytical separations and gives the student a foundation for understanding chromatographic separations. The other parts of the course will describe specific methods and instrumentation used in gas chromatography and high-performance liquid chromatography. The course will be frequently illustrated with examples linked to other scientific disciplines, especially in life sciences and environmental science.

Text Book

Title	Quantitative Chemical Analysis
Author(s)	Daniel C. Harris
Edition	8th Edition
Short Name	Text book
Other Information	

Instructor

Name	Prof. Yahya Tahboub
Office Location	D3 L-0
Office Hours	
Email	tahboub@just.edu.jo

Class Schedule & Room

Section 1:
Lecture Time: Sun, Mon, Tue, Wed : 13:00 - 14:00
Room: منصة الكترونية

Prerequisites		
Line Number	Course Name	Prerequisite Type
913362	CHEM336 Principles Of Chemical Instrumentation	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Introduction to Analytical Separations	chapter 22 From Text book
Week 2	Introduction to Analytical Separations	chapter 22 From Text book
Week 3	Introduction to Analytical Separations	chapter 22 From Text book
Week 4	Introduction to Analytical Separations	chapter 22 From Text book
Week 5	Gas Chromatography	chapter 23 From Text book
Week 6	Gas Chromatography	chapter 23 From Text book
Week 7	Gas Chromatography	chapter 23 From Text book
Week 8	Gas Chromatography	chapter 23 From Text book
Week 9	Gas Chromatography	chapter 23 From Text book
Week 10	High-Performance Liquid Chromatography	chapter 24 From Text book
Week 11	High-Performance Liquid Chromatography	chapter 24 From Text book
Week 12	High-Performance Liquid Chromatography	chapter 24 From Text book
Week 13	High-Performance Liquid Chromatography	chapter 24 From Text book
Week 14	High-Performance Liquid Chromatography	chapter 24 From Text book

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Understand the terms used in solvent extraction [1a, 1k]	12%	
Understand the factors affecting solvent extraction efficiency. [1a, 1k]	12%	
Understand the parameters used in chromatography. [1a, 1k]	50%	
Explain the differences between types of chromatography and their applications [1a, 1k]	26%	

Relationship to Program Student Outcomes (Out of 100%)										
a	b	c	d	e	f	g	h	i	j	k
50										50

Evaluation	
Assessment Tool	Weight
First	25%
Second	25%
Homework	10%
Final	40%

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