

CHEM 211 Syllabus

Course Code	Course Name	Credits	Prerequisite(S)	Classification
CHEM 211	Chemistry of Volumetric and Gravimetric Analysis	4 3T+3P	CHEM 202	Department Requirement

Course Description This course is designed to provide the student with sufficient knowledge of the fundamentals of volumetric and gravimetric analyses. The principals of the classical quantitative methods and their applications are adequately covered.

Class Classes are held 3 times/week each for 50 minutes.

Scheduling Or
Classes are held 2 times/week each for 75 minutes.
Labs are held 1 time/week for 170 minutes.

Textbook(s) 1. Analytical Chemistry (Gary D. Christian). 7th ed., 2014
2. Fundamentals of Analytical Chemistry, D. A. Skoog, D. M. West, F. J. Holler and S. R. Crouch, 9th ed., 2014, Brooks/Cole.

Course Coordinator Dr. Esraa Bakhsh
Dr. Taghreed Fagieh

Relationship to SOs	1	2	3	4	5	6
	X	X	X			

CLOs By the end of this course student will be able to:

CLO1. Describe the basic principles and the methods that are used in the volumetric and gravimetric analyses.

CLO2. Define the theoretical bases of the various expressing concentrations methods.

CLO3. Perform different experiments by handling a variety of chemicals, glassware and laboratory instruments.

CLO4. Solve different problems by applying concepts and principles of the right analytical methods.

Contents

List of Topics	No. of Weeks
Data Handling	1
Stoichiometric Calculations	1
Basic Tools and Operations of analytical chemistry	1
Acid – Base Equilibria	4
Redox Titration	2
Complexation Titrations	2
Precipitation Titration	2
Gravimetric analysis	2
Total	15
Laboratory Section: Acid – Base Titrations, Redox Titrations, Iodimetry and iodometry, Complexometric Titrations using EDTA, Precipitation Reactions, Gravimetric Analysis	13