Analytical Chemistry

Course Code	Course Num.	Course Name	Credit Hours	Lec.	Lab.	Tut.	Prerequisites
CHM	231	Analytical Chemistry	4	2	3	1	CHM 211

Objectives:

- To provide a basic knowledge and understanding of essential chemical and physical principles for analytical chemistry.
- To introduce basic analytical techniques and practical aspects of classical chemical analysis.
- To solve problems related to chemical analysis and interpret analytical results.

Syllabus:

Review the basic calculations of analytical chemistry (chemical concentrations and stochiometry relationship)
Statistics and data analysis in analytical chemistry
Sampling, Standardization, and Calibration.
Fundamentals of chemical equilibria
Effect of Electrolytes on equilibrium systems.
Gravimetric analysis
Acid/Base Titrations
Precipitation Titrations
Complexometric Titrations
Oxidation/Reduction Titrations

Textbook:

Quantitative Chemical Analysis, Daniel C. Harris, 8th edition,2010, W. H. Freeman & Co., New York, ISBN: 9781429218153

References:

1. Modern Analytical Chemistry, David Harvey, McGraw-Hill, 1st ed, 2000, ISBN: 0-07-237547-7
2. Chemical Analysis: Modern Instrumentation Methods and Techniques, Francis Rouessac, Annick Rouessac, John Wiley & Sons, 2nd ed, 2007.ISBN: 0470859040, 9780470859049
3. Principles of Instrumental Analysis", D. A. Skoog, F. J. Holler, S.R. Crouch, Brooks Cole; 6th edition (Dec 6 2006) , ISBN: 0495012017 , 978-0495012016