

CHEM 331 : Equilibrium & Analysis

Designed for chemistry majors, minors and pre-health professionals. Problem-based learning course designed to provide a working knowledge of the principles and practices of analytical chemistry. Covers two major themes: (1) the systematic treatment of chemical equilibrium in ionic systems, including acid-base, solubility, redox, and (2) methods of quantitative chemical analysis, which includes the theory and practice of volumetric analysis and modern instrumental methods of analysis (spectroscopy and chromatography techniques). Through both lecture and laboratory instruction, students will develop a theoretical foundation for a variety of methods of analytical chemistry as well as a proficiency in chemical laboratory techniques, and the ability to apply these to practical and current problems in research. The laboratory culminates in a three-week laboratory group project and a poster presentation. Learning outcomes include a strong quantitative understanding of chemical processes and instrumentation. This includes the ability to deconstruct, analyze, critically evaluate the results of, and present an analytical chemistry research project.

Credits 5

Prerequisites

Grade of C or better in [CHEM 111](#)

Attributes

Analytical Reasoning

Required for the major

Pre-req

Research Component

Upper-Level

Semester Offered

Spring