CHM 114: Fundamentals of Chemistry II

Topics include theories of chemical bonding, intermolecular forces in solids and liquids, solutions and colligative properties, kinetics, equilibria, acids and bases, thermodynamics, and electrochemistry. The laboratory includes semi-micro qualitative analysis along with traditional experimental procedures. Prerequisite: C or better in CHM 113. Three lecture hours, one recitation hour, and three laboratory hours per week. Instructional Support Fee applies. Competency met: Scientific Reasoning and Discovery (3.0) 4 credits Fall, Spring

Course Student Learning Outcomes

1. Apply the Lewis Theory, Valence Bond Theory, and Molecular Orbital Theory to explain bonding in simple molecules and polyatomic ions.
2. Use solute-solvent interactions to predict solubility and apply colligative properties of solutions to solve real life problems.
3. Explain the factors that influence rates of reactions and calculate rates of reactions using kinetics data.
4. Write equilibrium constant expressions and solve problems that require the use of principles of chemical equilibrium.
5. Perform calculations involving Gibbs free energy, equilibrium constant, enthalpy and entropy.
6. Balance redox reactions, calculate cell potentials and know the relationship between amount of electricity used and amount of product in an electrolysis experiment.

Credits: 4
Prerequisites:
C or better in CHM 113.
Program: Chemistry
Instructional Support Fee Applies