CH 223Z : GENERAL CHEMISTRY III

Transcript title

General Chemistry III

Credits

4

Grading mode

Standard letter grades

Total contact hours

40

Lecture hours

40

Prerequisites

CH 222Z and CH 228Z.

Corequisites

CH 229Z.

Course Description

Builds upon the principles presented in CH 222Z, explores thermodynamics and chemical equilibrium, and applies them to the study of aqueous acid-base reactions, solubility, and electrochemistry. CH 223Z is a lecture course; CH 229Z is the laboratory component.

Course learning outcomes

1. Apply concepts of thermodynamics to explain the favorability of chemical reactions.

2. Apply the principles of spontaneity, entropy, free energy, and the laws of thermodynamics to predict and rationalize the behavior of chemical reactions.

3. Interpret the behavior and relative strengths of acids and bases, buffers, and the hydrolysis of salts.

4. Analyze and evaluate equilibrium reactions including solubility, acids and bases, and other equilibria.

 5. Predict responses of various chemical systems to changing conditions using equilibrium calculations and Le Chatelier's Principle.
6. Use redox reactions and electrochemical principles to determine cell potentials and to analyze the relationship between voltage, free energy, and equilibrium.

7. Identify or formulate and apply the appropriate equations related to electrochemistry, thermodynamics, equilibrium reactions, acids, bases, and buffers.

General education/Related instruction lists

• Science Lab