Syllabus Mapping:

General Chemistry II

Introduction to Chemistry, Elements (Metals, Non-Metals, Semi-Metals) & Compounds (Covalent, Ionic, Metallic)

JoVE Science Education: Chemistry — General Chemistry
  • Coordination Chemistry Complexes

JoVE Core Chapter 01: Scientific Inquiry
  • 1.2 Levels of Organization

JoVE Core Chapter 02: Chemistry of Life
  • 2.1: The Periodic Table and Organismal Elements
  • 2.10 Covalent Bonds
  • 2.11 Ionic Bonds

JoVE Core Chapter 07: Metabolism
  • 7.5 Potential Energy

Calculations in Chemistry, Accuracy and Precision, Significant Digits, Concentrations, & Avogadro's Number

JoVE Science Education: Chemistry — General Chemistry
  • Common Lab Glassware and Uses

JoVE Journal — Medicine
  • Accuracy in Dental Medicine, A New Way to Measure Trueness and Precision

JoVE Science Education: Chemistry — Analytical Chemistry
  • Calibration Curves

JoVE Science Education: Basic Biology — General Laboratory Techniques
  • Understanding Concentration and Measuring Volumes
Chemical Reactions, Chemical Equations, & Balancing Chemical Equations

JoVE Science Education: Chemistry — General Chemistry
- Determining Rate Laws and the Order of Reaction
- Determining the Empirical Formula

JoVE Core Chapter 02: Chemistry of Life
- 2.8 Chemical Reactions

JoVE Science Education: Basic Biology — General Laboratory Techniques
- Understanding Concentration and Measuring Volumes

Solubility and Precipitation, Sparingly Soluble Salts, Solubility Rules & Introduction to Chemical Equilibrium – Solubility Constant

JoVE Science Education: Chemistry — Organic Chemistry
- Separation of Mixtures via Precipitation

JoVE Journal: Medicine
- Solubility of Hydrophobic Compounds in Aqueous Solution Using Combinations of Self-assembling Peptide and Amino Acid

JoVE Science Education: Chemistry — General Chemistry
- Determining the Solubility Rules of Ionic Compounds
- Spectrophotometric Determination of an Equilibrium Constant
- Determining the Solubility Rules of Ionic Compounds


JoVE Core Chapter 02: Chemistry of Life
- 2.17: Redox Reactions

JoVE Science Education: Environmental Sciences — Environmental Science
• Proton Exchange Membrane Fuel Cells

JoVE Science Education: Engineering — Materials Engineering
• Electroplating of Thin Films

JoVE Journal: Chemistry
• Extending the Lifespan of Soluble Lead Flow Batteries with a Sodium Acetate Additive
• Elemental-sensitive Detection of the Chemistry in Batteries through Soft X-ray Absorption Spectroscopy and Resonant Inelastic X-ray Scattering
• Dynamic Electrochemical Measurement of Chloride Ions
• Determining the Chemical Composition of Corrosion Inhibitor/Metal Interfaces with XPS: Minimizing Post Immersion Oxidation
• Imaging Corrosion at the Metal-Paint Interface Using Time-of-Flight Secondary Ion Mass Spectrometry

JoVE Journal: Engineering
• Construction and Testing of Coin Cells of Lithium Ion Batteries

JoVE Science Education: Chemistry — Analytical Chemistry
• Calibration Curves
• Internal Standards
• Method of Standard Addition

JoVE Journal: Neuroscience
• A Micro-agar Salt Bridge Electrode for Analyzing the Proton Turnover Rate of Recombinant Membrane Proteins

JoVE Journal: Medicine
• A Method for Quantifying Upper Limb Performance in Daily Life Using Accelerometers