

Illinois State University Chemistry eLearning Course Offerings

CHE 401.01

Adv. Chemistry Demos: Gas Properties, Laws, and Reactions

Topical analysis of current best practices in teaching chemistry related to gas properties, laws, and reactions.

CHE 401.02

Adv. Chemistry Demos: Chemical Reactions, Stoichiometry, and the Mole

Topical analysis of current best practices in teaching chemistry related to chemical reactions, stoichiometry, and the mole.

CHE 401.03

Adv. Chemistry Demos: Kinetics, Equilibrium, and Acids & Bases

Topical analysis of current best practices in teaching chemistry related to kinetics, equilibrium, and acids and bases.

CHE 401.04

Adv. Chemistry Demos: Atomic and Molecular Structure

Topical analysis of current best practices in teaching chemistry related to atomic and molecular structure.

CHE 401.05

Adv. Chemistry Demos: Redox, Electrochemistry, and Solutions

Topical analysis of current best practices in teaching redox, electrochemistry, and solutions as they pertain to secondary school classrooms.

CHE 401.06

Adv. Chemistry Demos: Thermochemical Energy in the Chemistry Curriculum

Topical analysis of current best practices and difficulties in teaching energy concepts in chemistry as they pertain to secondary school classrooms.

CHE 402.01

Teaching Chemistry in the Laboratory: An Experimental Science

Topical analysis of current best practices in teaching chemistry as an experimental science as it can be achieved in secondary school classrooms. A particular emphasis will be to connect content knowledge to modern demonstrations, experiments, and teaching activities.

CHE 403.01**Teaching Science Safely: Secondary Schools**

Topical analysis of current best practices in teaching chemistry safely as it relates to secondary schools.

CHE 454.09**Nuclear Chemistry**

Fundamental concepts and applications of nuclear chemistry and radiochemistry, including nuclear dating, nucleosynthesis, nuclear energy, nuclear weapons, and radiation effects.

CHE 466.01**Molecular Spectroscopy**

Theory and applications of modern spectroscopic methods for atomic and molecular systems, with a focus on rotational, vibrational, and electronic spectroscopy.

CHE 466.08**Computational Chemistry**

Applications of the principles of physical chemistry to modeling molecular structures, properties, and reactivity using modern software packages. No prior computing experience is required.

CHE 480.45**X-Ray Diffractometry**

Advanced study in the area of X-ray Crystallography. This course constitutes an in-depth exploration of methods, both practical and theoretical, commonly encountered in structural determination using X-ray crystallography.

CHE 480.64**Biochemistry of Nutrition, Exercise, and Sports Medicine**

Analysis of the biochemistry of nutrition and exercise and how these can be used to understand their complex interactions.