

CHEMISTRY (CHEM)

CHEM 110-CN Quantitative Problem Solving in Chemistry (1 Unit)

Solution strategies for traditional word problems and their application to basic chemistry quantitative problems: dimensional analysis, chemical equations, stoichiometry, limiting reagents.

CHEM 131-CN General Chemistry 1 (1 Unit)

Quantum mechanics, electronic structure, periodic properties of the elements, chemical bonding, thermodynamics, intermolecular forces, properties of solids and liquids, special topics in modern chemistry. Must be taken concurrently with CHEM 141-CN.

Prerequisite: grade of C- or higher in CHEM 110-CN.

CHEM 132-CN General Chemistry 2 (1 Unit)

Solutions and colligative properties, chemical equilibrium, aqueous solution equilibria, chemical kinetics, metals in chemistry and biology, oxidation-reduction reactions and electrochemistry, special topics in modern chemistry. Must be taken concurrently with CHEM 142-CN.

Prerequisite: grade of C- or higher in CHEM 131-CN and CHEM 141-CN.

CHEM 141-CN General Chemistry 1 Lab (0.34 Unit)

Chemical analysis of real samples using basic laboratory techniques including titration, colorimetric analysis, density measurements, and atomic spectroscopy. Planning, data collection, interpretation, and reporting on experiments. Credit for this course is 0.34 units. Must be taken concurrently with CHEM 131-CN.

Prerequisite: grade of C- or higher in CHEM 110-CN.

CHEM 142-CN General Chemistry Lab 2 (0.34 Unit)

Chemistry laboratory techniques applied to materials science and nanotechnology, acid-base chemistry, and chemical kinetics. Planning, data collection, interpretation, and reporting on experiments. The course must be taken concurrently with CHEM 132-CN. Credit for this course is 0.34 units.

Prerequisite: grade of C- or higher in CHEM 131-CN.

CHEM 201-CN Chemistry of Nature and Culture (1 Unit)

NPEP course.

CHEM 210-A Organic Chemistry (1 Unit)

Basic concepts of structure, stereochemistry, and reactivity of organic compounds. The chemistry of hydrocarbons and alcohols.

Prerequisite: completion of General Chemistry Sequence with grade of C- or better, or equivalent transfer credit with qualifying score on the Chemistry Placement Exam.

CHEM 210-B Organic Chemistry (1 Unit)

The chemistry of aromatic, carbonyl, and nitrogen compounds; characterization of organic substances by chemical and spectral methods; reaction mechanisms. Must be taken concurrently with CHEM 230-B.

Prerequisite: grade of C- or higher in CHEM 210-A.

CHEM 210-C Organic Chemistry III (1 Unit)

The chemistry of poly-functional compounds of biological and medicinal interest. Modern organic synthesis, bioorganic chemistry, and recent developments in organic chemistry. Must be taken concurrently with CHEM 230-C.

Prerequisite: grade of C- or higher in CHEM 210-B.

CHEM 230-B Organic Chemistry II Laboratory (0.34 Unit)

Instruction in experimental techniques of modern organic chemistry emphasizing chemical separations, spectroscopic characterization, and reactions of alkanes, alkenes, alkyl halides, alcohols, carbonyls, esters, and aromatic compounds. Must be taken concurrently with CHEM 210-B.

Prerequisite: grade of C- or higher in CHEM 210-A.

CHEM 230-C Organic Chemistry III Laboratory (0.34 Unit)

Experimental techniques of modern organic chemistry emphasizing chemical separations, spectroscopic characterization, and reactions such as amide synthesis, Grignard reaction, aldol condensation, Robinson annulation, and DielsAlder reaction. Must be taken concurrently CHEM 210-C.

Prerequisite: grade of C- or higher in CHEM 210-B.

CHEM 242-CN Thermodynamics (1 Unit)

NPEP course.