

CHEMISTRY (CHEM)

CHEM-110 Introduction to Chemistry

4 Units

54 hours lecture; 54 hours lab; 108 hours total

Prerequisite: Completion of Intermediate Algebra, MATH-93 or MATH-232 with a minimum grade of C or appropriate placement.

The first course in chemistry for students preparing for biological or health sciences, for more advanced chemistry courses, or for those desiring to learn about chemistry in the everyday world for general education. Laboratory is included.

Transfers to both UC/CSU

CHEM-111 Introduction to Organic & Biological Chemistry

4 Units

54 hours lecture; 54 hours lab; 108 hours total

Prerequisite: Completion of CHEM-110 with a minimum grade of C.

An introduction to the important principles, compounds and reactions of organic and biological chemistry with an emphasis on biochemical behavior of the molecules. Laboratory includes an introduction to the basic techniques of organic and biological chemistry. For students pursuing nursing and allied health careers who need a year of chemistry that includes an introduction to organic and biological chemistry. CHEM 110 (or CHEM 120) and CHEM 111 will fulfill that requirement.

Transfers to both UC/CSU

CHEM-120 General Chemistry 1

5 Units

54 hours lecture; 108 hours lab; 162 hours total

Prerequisite: Completion of Intermediate Algebra, MATH-95 or appropriate placement and high school chemistry or CHEM-110 with a minimum grade of C.

An introduction to principles of chemistry, with an emphasis on mathematical applications. Topics include atomic structure, chemical reactions, gram-mole-atom conversions, stoichiometry, aqueous solutions, concentrations, titrations, limiting reactants, gas behavior, kinetic molecular theory, bonding, molecular structure, quantum theory, and coordination chemistry.

Transfers to both UC/CSU

CHEM-121 General Chemistry 2

5 Units

54 hours lecture; 108 hours lab; 162 hours total

Prerequisite: Completion of CHEM-120 with a minimum grade of C.

A continuation of CHEM 120. Topics include solutions, acid-base and redox equilibria, thermodynamics, kinetics, pH, buffers, solubility product, complex ions, thermodynamics, electrochemistry, biochemistry and nuclear chemistry.

Transfers to both UC/CSU

CHEM-240 Organic Chemistry 1

5 Units

54 hours lecture; 108 hours lab; 162 hours total

Prerequisite: Completion of CHEM-121 with a minimum grade of C.

The first course of a two-semester sequence designed for pre-professional programs such as chemistry, chemical engineering, medicine and biology. Introduction to organic synthetic pathways, mechanisms, and spectroscopy. Lab work includes qualitative analysis of organic compounds, synthesis, extraction, separation and identification of compounds using physical properties, chemical reactivity, and spectral techniques.

Transfers to both UC/CSU

CHEM-241 Organic Chemistry 2

5 Units

54 hours lecture; 108 hours lab; 162 hours total

Prerequisite: Completion of CHEM-240 with a minimum grade of C.

A continuation of CHEM 240. Introduction to NMR, IR, and Mass Spectroscopy. Chemical reactions and syntheses of aromatic, carbonyl, and amine compounds. Special topics in carbohydrate, amino acid, and lipid chemistry. Lab work includes simple and multi-step syntheses and spectral identification.

Transfers to both UC/CSU