

CHEMISTRY (CHEM)

CHEM 155 Principles of General, Organic, and Biochemistry 4 cr.
This is a one-semester laboratory course designed to cover the basic concepts of inorganic, organic, and biological chemistry. This course is intended for those students entering a health-related pre-professional program. The topics covered include: properties of matter, composition of matter at the atomic and molecular level, quantitative analysis, chemical reactions, structure and function of organic compounds and their applications in a biological system-biochemistry of carbohydrates, proteins, lipids, and nucleic acids. The laboratory work includes basic laboratory techniques and is intended to support lecture topics. This course will not count towards the Associates of Science degree in Chemistry. Code 5 course fee.

CHEM 180 Introductory Chemistry 4 cr.
A one-semester laboratory course designed for those who have not had a high-school science background or for those who have graduated from high school ten or more years ago. This course may be especially useful for those students preparing to enter the para-medical training programs or those wishing to prepare for college chemistry. The following are covered in this course: measurement, elements and compounds, properties of matter, atomic theory, nomenclature, quantitative analysis, chemical equations, calculations in chemistry, modern theory and the periodic table, chemical bonds, gaseous states of matter, matter and energy, atomic structure, periodic law, equation-writing, stoichiometrics, pneumatics, solutions, acids, bases, salts, and oxidation-reduction. It is highly recommended that students enrolling in this course have taken high school algebra or MATH 011. Code 5 course fee.

CHEM 181 General Chemistry I 4 cr.
This course, intended for science majors, is the first course of a two-course sequence. Course topics include stoichiometry, inorganic nomenclature, solutions, gas laws, thermochemistry atomic structure, and chemical bonding. The laboratory work includes basic laboratory techniques and is intended to support lecture topics. It is highly recommended that students who enroll in this course have completed high school Chemistry (or CHEM 180) and high school Algebra II. Code 5 course fee.

CHEM 182 General Chemistry II 4 cr.
This course is intended for science majors and is the second of a two-course sequence. Course topics include colligative properties, chemical equilibrium, acid-base chemistry, kinetics, thermodynamics, electrochemistry, and nuclear chemistry. The laboratory work involves analytical and spectrophotometric techniques relating to lecture topics. Code 5 course fee.
Prerequisite(s): CHEM 181

CHEM 283 Organic Chemistry I 4 cr.
This is the first course in a two-course sequence exploring the structure-activity relationships of functional groups. Course topics include: nature of the covalent bond, alkanes, alkenes, stereochemistry, reaction mechanisms, and functional group chemistry. The laboratory work consists of basic separation and purification, and synthetic organic laboratory techniques. Code 5 course fee.
Prerequisite(s): CHEM 182

CHEM 284 Organic Chemistry II 4 cr.
This is the second in a two-course sequence exploring the structure-activity relationship of functional groups. Course topics include: the structure and reactions of aromatic compounds, the carbonyl, and nitrogen containing functional groups. Molecular structure determination using infrared and nuclear magnetic resonance is also discussed. The laboratory work includes organic synthesis and qualitative organic analysis. Code 5 course fee.
Prerequisite(s): CHEM 283