CHEMISTRY (CHEM)

CHEM 1105 Introductory Chemistry I (lab) 1 Credit (0 Lec, 3 Lab)
This survey course is introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for non-science and non-allied health students.
Prerequisite(s): Reading level 7, Writing level 6, and Math level 6;
Co-requisite(s): CHEM 1305
Course Type: Academic

CHEM 1111 General Chemistry I (lab) 1 Credit (0 Lec, 3 Lab)
This lab course covers basic laboratory experiments supporting theoretical principles presented in CHEM 1311; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports.
Prerequisite(s): Reading level 7, Math level 9 and Math 1314 or higher;
Co-requisite(s): CHEM 1311
Course Type: Academic

CHEM 1112 General Chemistry II (lab) 1 Credit (0 Lec, 3 Lab)
This second semester of the general inorganic chemistry lab covers basic laboratory experiments supporting theoretical principles presented in CHEM 1312; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports.
Prerequisite(s): CHEM 1311/1111, Reading level 7 and Math level 9;
Co-requisite(s): CHEM 1312
Course Type: Academic

CHEM 1305 Introductory Chemistry I (lecture) 3 Credits (3 Lec, 0 Lab)
This lecture survey course is introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for non-science and non-allied health students.
Prerequisite(s): Reading level 7, Writing level 6, and Math level 6;
Co-requisite(s): CHEM 1105
Course Type: Academic

CHEM 1311 General Chemistry I (lecture) 3 Credits (3 Lec, 0 Lab)
This lecture course covers the fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry.
Prerequisite(s): Reading level 7, Math level 9 and Math 1314 or higher;
Co-requisite(s): CHEM 1111
Course Type: Academic

CHEM 1312 General Chemistry II (lecture) 3 Credits (3 Lec, 0 Lab)
This second semester of the general inorganic chemistry lecture covers chemical equilibrium; phase diagrams and spectrometry; acid-base concepts; thermodynamics; kinetics; electrochemistry; nuclear chemistry; an introduction to organic chemistry and descriptive inorganic chemistry.
Prerequisite(s): CHEM 1311/1111, Reading level 7 and Math level 9;
Co-requisite(s): CHEM 1112
Course Type: Academic

CHEM 2123 Organic Chemistry I (lab) 1 Credit (0 Lec, 3 Lab)
This laboratory course accompanies CHEM 2323, Organic Chemistry I. Laboratory activities will reinforce fundamental principles of organic chemistry, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. Methods for the purification and identification of organic compounds will be examined.
Prerequisite(s): CHEM 1312/1112;
Co-requisite(s): 2323
Course Type: Academic

CHEM 2323 Organic Chemistry I (lecture) 3 Credits (3 Lec, 0 Lab)
This laboratory course accompanies CHEM 2325, Organic Chemistry II. Laboratory activities reinforce advanced principles of organic chemistry, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules.
Prerequisite(s): CHEM 2323/2123;
Co-requisite(s): CHEM 2325
Course Type: Academic

CHEM 2325 Organic Chemistry II (lab) 1 Credit (0 Lec, 3 Lab)
This laboratory course accompanies CHEM 2323, Organic Chemistry I. Laboratory activities reinforce advanced principles of organic chemistry, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules.
Prerequisite(s): CHEM 2323/2123;
Co-requisite(s): CHEM 2325
Course Type: Academic

CHEM 2125 Organic Chemistry II (lab) 1 Credit (0 Lec, 3 Lab)
This laboratory course accompanies CHEM 2325, Organic Chemistry II. Laboratory activities reinforce advanced principles of organic chemistry, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules.
Prerequisite(s): CHEM 2323/2123;
Co-requisite(s): CHEM 2325
Course Type: Academic

CHEM 2123 Organic Chemistry I (lecture) 3 Credits (3 Lec, 0 Lab)
In this introductory organic chemistry lecture course fundamental principles of organic chemistry will be studied, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS.
Prerequisite(s): CHEM 1312/1112;
Co-requisite(s): CHEM 2123
Course Type: Academic
CHEM 2325 Organic Chemistry II (lecture) 3 Credits (3 Lec, 0 Lab)
This second semester of introductory organic chemistry lecture course advanced principles of organic chemistry will be studied, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules.
THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS.
Prerequisite(s): CHEM 2323/2123;
Co-requisite(s): CHEM 2125
Course Type: Academic

CHEM 2389 Academic Cooperative 3 Credits (1 Lec, 8 Lab)
This is an instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual student will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena.
Prerequisite(s): Eight hours of chemistry; Reading level 7, Writing level 7, Math level 8
Course Type: Academic