

CHEMISTRY (CHE)

CHE 1009 | General, Organic, and Biochemistry

Lecture Credit: 4

This course surveys the foundations of inorganic, organic, and biochemistry, including the study of measurement, atomic theory, chemical bonding, inorganic and organic nomenclature, reaction stoichiometry, solutions, acid and base chemistry, condensed states of matter, structure-property relationships of different functional groups, and structures and functions of the four main biomolecule classes. This course is designed for non-science majors and students entering selected occupational and health related career areas. This course does not have a lab component.

Prerequisite: College Readiness in English and Quantitative Literacy Math

Note: Recommended for health science career areas, specifically pre-dental hygiene.

CHE 1011 | Introduction to Chemistry I with Lab: GT-SC1

Lecture Credit: 4 Lab Credit: 1

Includes the study of measurements, atomic theory, chemical bonding, nomenclature, stoichiometry, solutions, acid and base, gas laws, and condensed states. Laboratory experiments demonstrate the above concepts qualitatively and quantitatively. Designed for non-science majors, students in occupational and health programs, or students with no chemistry background. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1

Prerequisite: College Readiness in English and Quantitative Literacy Math

CHE 1075 | Special Topics

Provides students with a vehicle to pursue in depth exploration of special topics of interest.

Note: Special topics courses range from 0-12 credits and vary in learning type. Please see your program chair for more information about your options.

CHE 1085 | Independent Study

Independent Study Credit: 0 - 12

Provides the opportunity for the highly motivated student to engage in intensive study and research on a specified topic under the direction of a faculty member. Includes the opportunity for a student to complete a course when the course has not been offered or has been cancelled. The option to make independent study available is at the discretion of qualified faculty and the department chair.

CHE 1111 | General College Chemistry I with Lab: GT-SC1

Lecture Credit: 4 Lab Credit: 1

Focuses on basic chemistry and measurement, matter, chemical formulas, reactions and equations, stoichiometry and thermochemistry. This course covers the development of atomic theory culminating in the use of quantum numbers to determine electron configurations of atoms, and the relationship of electron configuration to chemical bond theory and molecular orbital theory. The course includes gases, liquids, and solids and problem-solving skills are emphasized through laboratory experiments. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1

Prerequisite: College Readiness in English and MAT 1340 or higher and CHE 1011 with a grade of C or better, or High School Chemistry

CHE 1112 | General College Chemistry II with Lab: GT-SC1

Lecture Credit: 4 Lab Credit: 1

Presents concepts in the areas of solution properties, chemical kinetics, chemical equilibrium, acid-base and ionic equilibrium, thermodynamics, electrochemistry, nuclear chemistry, and organic chemistry. This course emphasizes problem solving skills and descriptive contents for these topics. Laboratory experiments demonstrate qualitative and quantitative analytical techniques. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1

Prerequisite: CHE 1111 and MAT 1340 with a grade of C or better

CHE 2085 | Independent Study

Independent Study Credit: 0 - 12

Provides the opportunity for the highly motivated student to engage in intensive study and research on a specified topic under the direction of a faculty member. Allows a student to complete a course when the course has not been offered or has been cancelled. The option to make independent study available is at the discretion of qualified faculty and the department chair. The student is limited to the number of independent study courses taken per semester.

CHE 2111 | Organic Chemistry I with Lab

Lecture Credit: 3 Lab Credit: 2

Focuses on compounds associated with the element carbon including structure and reactions of aliphatic hydrocarbons and selected functional group families. The course covers nomenclature of organic compounds, stereochemistry, reaction mechanisms such as SN1, SN2, E1 and E2. Laboratory experiments demonstrate the above concepts plus the laboratory techniques associated with organic chemistry.

Prerequisite: CHE 1112 with a grade of C or better

CHE 2112 | Organic Chemistry II with Lab

Lecture Credit: 3 Lab Credit: 2

Explores the chemistry of carbon-based compounds, their reactions and synthesis including the structure, physical properties, reactivities, and synthesis of organic functional groups not covered in Organic Chemistry I. The course explores functional groups including alcohols, ethers, aromatics, aldehydes, ketones, amines, amides, esters, and carboxylic acids and the reactions and reaction mechanisms of aromatic compounds. An introduction to biochemical topics may be included if time permits. Laboratory experiences demonstrate the above concepts and the laboratory techniques associated with organic chemistry.

Prerequisite: CHE 2111 with a grade of C or better