CHEMISTRY (CHEM)

CHEM110 Foundations of General, Organic, and Biochemistry 4 credits (4 lec hrs/wk)
Prerequisite(s): (MTH65) or (MTH98)
This is a survey of chemistry from atomic structure through biochemistry. CHEM 110 is primarily for students in pre-nursing, some allied health fields, and students who need a brief introduction to chemistry that includes organic and biochemistry. The course does not have an associated lab.
This course may be taken 1 time for credit.
Course classification: LDC

CHEM180 Internship: Chemistry 1-12 credits (3 lab hrs/wk/cr)
Prerequisite(s): Instructor consent
Practical on-site experience that will allow students to explore workplace environments and career options.
This course may be taken 12 times for credit.
Course classification: LDC

CHEM221Z General Chemistry I 4 credits (4 lec hrs/wk)
Prerequisite(s): (MTH95)
Corequisite(s): (CHEM227Z)
Explores and applies principles and applications of chemistry. Emphasis on measurement, components of matter, atomic and molecular structure, quantitative relationships including foundational stoichiometry, and major classes of chemical reactions. CH/CHE/CHEM 221Z is a lecture course; CH/CHE/CHEM 227Z is the laboratory component.
This course may be taken 1 time for credit.
Course classification: LDC

CHEM222Z General Chemistry II 4 credits (4 lec hrs/wk)
Prerequisite(s): (CHEM221Z)
Corequisite(s): (CHEM228Z)
Explores and applies principles presented in CH/CHE/CHEM 221Z to the study of the solid, liquid, and gaseous states of matter. Principles of stoichiometry, thermochemistry, kinetics, and foundational equilibrium are explored and applied to the study of aqueous and gas-phase chemical reactions. CH/CHE/CHEM 222Z is a lecture course; CH/CHE/CHEM 228Z is the laboratory component.
This course may be taken 1 time for credit.
Course classification: LDC

CHEM223Z General Chemistry III 4 credits (4 lec hrs/wk)
Prerequisite(s): (CHEM222Z)
Corequisite(s): (CHEM229Z)
Builds upon the principles presented in CH/CHE/CHEM 222Z, explores thermodynamics and chemical equilibrium, and applies them to the study of aqueous acid-base reactions, solubility, and electrochemistry. CH/CHE/CHEM 223Z is a lecture course; CH/CHE/CHEM 229Z is the laboratory component.
This course may be taken 1 time for credit.
Course classification: LDC

CHEM227Z General Chemistry I Laboratory 1 credit (3 lab hrs/wk)
Corequisite(s): (CHEM221Z)
Experiments correspond to the topics covered in CH/CHE/CHEM 221Z including the fundamentals of chemical measurements, quantitative relationships in chemical analysis, and understanding atomic and molecular structure. CH/CHE/CHEM 227Z is the laboratory component; CH/CHE/CHEM 221Z is the lecture course.
This course may be taken 1 time for credit.
Course classification: LDC

CHEM228Z General Chemistry II Laboratory 1 credit (3 lab hrs/wk)
Corequisite(s): (CHEM222Z)
Experiments correspond to the topics covered in CH/CHE/CHEM 222Z including the fundamentals of intermolecular interactions, stoichiometric relationships, chemical equilibria and their application to the synthesis, identification, and analysis of chemical compounds. CH/CHE/CHEM 228Z is the laboratory component; CH/CHE/CHEM 222Z is the lecture course.
This course may be taken 1 time for credit.
Course classification: LDC

CHEM229Z General Chemistry III Laboratory 1 credit (3 lab hrs/wk)
Corequisite(s): (CHEM223Z)
Experiments correspond to the topics covered in CH/CHE/CHEM 223Z including the principles of chemical equilibria and their application to chemical analysis using volumetric and electrochemical methods. CH/CHE/CHEM 229Z is the laboratory component; CH/CHE/CHEM 223Z is the lecture course.
This course may be taken 1 time for credit.
Course classification: LDC

CHEM245 Organic Chemistry I 4 credits (3 lec, 3 lab hrs/wk)
Prerequisite(s): (CHEM223Z)
The first course of a three-term sequence in organic chemistry for students interested in the sciences, chemical engineering, and professional health programs. Topics include the structure of organic molecules, organic functional groups, stereochemistry, reaction mechanisms, and spectroscopy. Includes laboratory component. May be eligible for upper division credit at a four-year institution.
This course may be taken 1 time for credit.
Course classification: LDC

CHEM246 Organic Chemistry II 4 credits (3 lec, 3 lab hrs/wk)
Prerequisite(s): (CHEM245)
The second course of a three-term sequence in organic chemistry for students interested in the sciences, chemical engineering, and professional health programs. Topics include nucleophilic substitution at the carbonyl group and saturated carbons, organometallic compounds, elimination and addition reactions, and electrophilic and nucleophilic aromatic substitution. Includes a laboratory component. May be eligible for upper division credit at a four-year institution.
This course may be taken 1 time for credit.
Course classification: LDC

CHEM247 Organic Chemistry III 4 credits (3 lec, 3 lab hrs/wk)
Prerequisite(s): (CHEM246)
The third course of a three-term sequence in organic chemistry for students interested in the sciences, chemical engineering, and professional health programs. Topics include the chemistry of enols and enolate ions, radical chemistry, selectivity in chemical synthesis, retrosynthetic analysis, symmetric synthesis, and biological macromolecules. Includes a laboratory component. May be eligible for upper division credit at a four-year institution.
This course may be taken 1 time for credit.
Course classification: LDC

CHEM280 CWE: Chemistry 1-12 credits (3 lab hrs/wk/cr)
Prerequisite(s): Instructor consent
Practical worksite exposure to applied science, which provides students an opportunity to explore potential career paths in science while gaining practical experience in applying classroom science theory.
This course may be taken 12 times for credit.
Course classification: LDC