Chemistry (CHM)

CHM 141 General, Organic, and Biochemistry I

IAI – P1 902L

4 Hours

Prerequisites: Two years of high school algebra or MAT 062

6 hours weekly (3-3)

A first semester course of general, organic, and biochemistry sequence designed to meet the needs of students of nursing, dental hygiene, physical therapy, allied health programs, forestry, nutrition, and other majors with comparable requirements. This course covers matter, electrons and chemical bonds, formulas and equations, stoichiometry, gases, solutions, energies, acid-base reactions, radioactivity, and introduction to organic chemistry.

CHM 142 General, Organic, and Biochemistry II

4 Hours

Prerequisites: CHM 141

6 hours weekly (3-3)

Second semester course of general, organic, and biochemistry sequence designed to meet the needs of students of nursing, dental hygiene, physical therapy, allied health programs, forestry, nutrition, and other majors with comparable requirements. This course covers organic compounds and their characteristics, and biological compounds and their role in living organisms.

CHM 151 Chemical Principles

IAI – P1 902L, IAI – CHM 911

5 Hours

Prerequisites: MAT 111 or concurrent enrollment or instructor approval

7 hours weekly (3-4)

A study of the fundamental laws and concepts of chemistry, including formulas, nomenclature, atomic structure, bonding, the periodic chart, equations, stoichiometry, gas laws, and liquids and solids. Laboratory experiments investigate these concepts. A first semester course for students majoring in scientific, pre-professional, engineering, or technological programs.

CHM 152 Chemical Principles with Qualitative Analysis

IAI – CHM 912, IAI – P1 902L

5 Hours

Prerequisites: CHM 151

7 hours weekly (3-4)

A study of theory and calculations of chemical equilibrium, ionization, solubility products, redox reactions, acids and bases, and the methods and tools of analysis. The laboratory work consists of qualitative identification of common cations, and gravimetric and volumetric quantitative determinations. Second semester chemistry for science, engineering, and pre-professional majors.

CHM 201 Organic Chemistry I

IAI – CHM 913

5 Hours

Prerequisites: CHM 151

7 hours weekly (3-4)

A course in general organic chemistry intended for chemistry majors and minors and pre-professional students, this examines descriptive and theoretical organic chemistry. Topics discussed include bonding within carbon compounds, stereo-chemistry, reaction mechanisms, and organic reactions involving specific classes of compounds. In the laboratory, students will learn and utilize microscale organic techniques that are integrated with separations using GC and HPLC and with characterizations using IR and UV-Vis spectroscopy. This course is currently offered only in the fall semester.

CHM 202 Organic Chemistry II

IAI – CHM 914

5 Hours

Prerequisites: CHM 201

7 hours weekly (3-4)

This course continues the discussions of CHM 201 topics. Additional classes of organic compounds are studied for physical properties, reactions, mechanisms, and practical uses. Characterization theory is expanded with nuclear magnetic resonance (NMR) theory and mass spectrometry (M.S.). The chemistry of conjugated dienes, benzene, alcohols, aldehydes, ketones, carbohydrates, animes, and amino acids will be studied. The laboratory will expand on established microscale technique with the use of I.R., chromatography and NMR computer simulations. Communication and report writing skills will also be emphasized.

This course is currently only offered in the spring semester.