

# SUBJECTS AND COURSES

## COURSE DESCRIPTIONS - CHEMISTRY (CHM)

### CHM 104 Introduction to Chemistry I

This is a survey course of general chemistry for students who do not intend to major in science or engineering and may not be substituted for CHM 111. Lecture will emphasize the facts, principles, and theories of general chemistry including math operations, matter and energy, atomic structure, symbols and formulas, nomenclature, the periodic table, bonding concepts, equations, reactions, stoichiometry, gas laws, phases of matter, solutions, pH, and equilibrium reactions. Laboratory is required. **5 Credit Hours**

### CHM 105 Introduction to Chemistry II

CHM-104(Introduction to Chemistry I) with a grade of C or higher or CHM-104(Introduction to Chemistry I) with a transfer-in grade of C or higher or CHM-111(College Chemistry I w/Lab) with a grade of C or higher or CHM-111(College Chemistry I w/Lab) with a transfer-in grade of C or higher

This is a survey course of organic chemistry and biochemistry for students who do not intend to major in science or engineering. Topics will include basic nomenclature, classification of organic compounds, typical organic reactions, reactions involved in life processes, function of biomolecules, and the handling and disposal of organic compounds. Laboratory is required. **5 Credit Hours**

### CHM 111 College Chemistry I w/Lab

MTH-112(Precalculus Algebra) with a grade of C or higher or ACT Math minimum score of 20

This is the first course in a two-semester sequence designed for the science or engineering major who is expected to have a strong background in mathematics. Topics in this course include measurements, nomenclature, stoichiometry, atomic structure, equations and reactions, basic concepts of thermochemistry, chemical and physical properties, bonding, molecular structure, gas laws, kinetic-molecular theory, condensed matter, solutions, colloids, and some descriptive chemistry topics. Laboratory is required. **5 Credit Hours**

### CHM 112 College Chemistry II w/Lab

CHM-111(College Chemistry I w/Lab) with a grade of D or higher or CHM-111(College Chemistry I w/Lab) with a transfer-in grade of C or higher and MTH-112(Precalculus Algebra) with a grade of D or higher or MTH-112(Precalculus Algebra) with a transfer-in grade of C or higher

This is the second course in a two-semester sequence designed primarily for the science and engineering student who is expected to have a strong background in mathematics. Topics in this course include chemical kinetics, chemical equilibria, acids and bases, ionic equilibria of weak electrolytes, solubility product principle, chemical thermodynamics, electrochemistry, oxidation-reduction, nuclear chemistry, an introduction to organic chemistry and biochemistry, atmospheric chemistry, and selected topics in descriptive chemistry including the metals, nonmetals, semi-metals, coordination compounds, transition compounds, and post-transition compounds. Laboratory is required. **5 Credit Hours**

### CHM 221 Organic Chemistry I

CHM-112(College Chemistry II w/Lab) with a grade of C or higher

This is the first course in a two-semester sequence. Topics in this course include nomenclature, structure, physical and chemical properties, synthesis, and typical reactions for aliphatic, alicyclic, and aromatic compounds with special emphasis on reaction mechanisms, spectroscopy, and stereochemistry. Laboratory is required and will include the synthesis and confirmation of representative organic compounds with emphasis on basic techniques. **5 Credit Hours**

### CHM 222 Organic Chemistry II

CHM-221(Organic Chemistry I) with a grade of C or higher

This is the second course in a two-semester sequence. Topics in this course include nomenclature, structure, physical and chemical properties, synthesis, and typical reactions for aliphatic, alicyclic, aromatic, and biological compounds, polymers and their derivatives, with special emphasis on reaction mechanisms, spectroscopy, and stereochemistry. Laboratory is required and will include the synthesis and confirmation of representative organic compounds with emphasis on basic techniques. **5 Credit Hours**

### CHM 250 Directed Studies in Chemistry

This course is designed for independent study in specific areas of chemistry chosen in consultation with a faculty member and carried out under faculty supervision. This course may be repeated three (3) times for credit. **1 Credit Hour**