

## CHEMISTRY

### CHEM 121 GENERAL CHEMISTRY

Topics include: periodic table of elements, bonding, atomic structure, stoichiometry, thermochemistry, gases, solutions chemistry, condensed phases, phase transitions, fundamental particles and waves, modern materials. Laboratory required. Pre-requisite: One year of high school chemistry. (IAI P1 902L, CHM 911) (5 credit, 4 lecture, 3 lab)

### CHEM 122 GENERAL CHEMISTRY & QUALITATIVE ANALYSIS II

Topics Include: colligative properties, kinetics, equilibrium, acidbase chemistry, electrochemistry, redox reactions, thermodynamics, coordination compounds, nuclear chemistry, spectroscopy, environmental chemistry. Laboratory required. Pre-requisite: CHEM 121 (IAI CHM 912) (5 credit, 4 lecture, 3 lab)

### CHEM 123 BASIC INORGANIC/ORGANIC CHEMISTRY

Topics include: the general principles and theories of chemistry, including fundamentals of inorganic chemistry, atomic structure, and states of matter, periodicity, bonding, stoichiometry, solution chemistry, acid/base concepts, and hydrocarbon chemistry. Laboratory required. Pre-requisite: MATH 109 or placement on NextGen Accuplacer at MATH 128 or MATH 144 level. (IAI P1 902L) (4 credit, 3 lecture, 2 lab)

### CHEM 124 BASIC/ORGANIC/BIOLOGICAL CHEMISTRY

Topics include: fundamental principles of organic chemistry and biochemistry, including study of structure, bonding, nomenclature, physical and chemical properties of organic and biologically significant compounds; also study of metabolic and biosynthetic pathways. Laboratory required. Pre-requisite: CHEM 121 or CHEM 123 (4 credit, 3 lecture, 2 lab)

### CHEM 241 ORGANIC CHEMISTRY I

Topics include: alkanes, cycloalkanes, alkenes and alkynes, organ halogens, organometallic compounds, peroxides, alcohols, phenols, ethers, sulfur compounds, and aromatic compound; study of organic reactions, nomenclature, bonding and physical properties. Laboratory required. Pre-requisite: CHEM 122. (5 credit, 4 lecture, 3 lab)

### CHEM 242 ORGANIC CHEMISTRY II

Topics include: aldehydes, ketones, carboxylic acids and derivatives, dicarbonyl compounds, amines, heterocyclic compounds, polycyclic aromatic compounds, and biological classes of compounds, organic reactions and physical properties; spectroscopic study of organic compounds. Laboratory included. Pre-requisite: CHEM 241 (IAI CHM 914) (5 credit, 4 lecture, 3 lab)