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**CHP****CHP 105 Introduction to Environmental Chemistry 4.0 UNITS**

This course explores the earth's atmosphere, hydrosphere, lithosphere and biosphere from a chemical perspective, and investigates the chemical composition and reactions that characterize the earth's systems. Chemical processes in each of these spheres are used to illustrate and explain fundamental chemical concepts. Other topics include ozone depletion, acid rain, radiochemical dating, and global climate change.

**CHP 201 Environmental Chemistry 4.0 UNITS**

Students study pollutants in air, water and solid waste, as well as their sources, lifetimes, spread, and toxicity to human health. The explanation is based on chemical reactions, mechanisms rate, and some physiology. Laboratory work introduces experiments pertinent to the lecture subjects, using micro-scale chemical analysis, instrumental analysis, and computer-interface.

**CHP 100 Introduction to Chemistry 3.0 UNITS**

This course is designed for students who have not had high school chemistry and for those who wish to review the subject. The course emphasizes descriptive chemistry. Topics include measurements and units, the periodic table, the atom, nuclear radioactivity, bond formation, simple stoichiometry, acid-base, redox, and organic compounds. The associate laboratory involves common measurement techniques and illustrates the lecture materials presented.

**CHP 111 College Chemistry I 4.0 UNITS**

This course is an introduction to common physical and chemical properties of substances and solutions. Topics cover scientific measurements and SI units, atomic structure and the periodic table, inorganic nomenclature, gas laws, chemical stoichiometry, chemical bonding, molecular geometry and polarity, thermochemistry, liquid properties, cubic crystals, and solutions. Laboratory work illustrates common lab techniques as well as chemical principles.

**CHP 211 College Chemistry II 4.0 UNITS**

This course is a continuation of College Chemistry I and an introduction to physicochemical concepts. Topics cover reaction rate, chemical equilibria, precipitation, acid-base, complexation, redox, electrochemistry, nuclear reactions and

thermodynamic quantities. Laboratory work introduces experiments pertinent to lecture subjects and consists of semiquantitative analysis.

**CHP 225 Organic Chemistry I 4.0 UNITS**

This is the first of a two-course sequence of introductory organic chemistry. The physical and chemical properties of organic compounds, including aliphatics, alicyclics, and aromatics are studied through an examination of their structure, preparation, reactivity, and spectral properties. The study of organic functionality centers in the hydroxyl and carbonyl groups. The laboratory component includes separation and purification techniques and other synthetic procedures.

**CHP 230 Organic Chemistry II 4.0 UNITS**

This course is a continuation of Organic Chemistry I. The studies proceed to aromatic compounds, aldehydes, ketones, carboxylic acids and their functional derivatives, amines, phenols and arylhalides. Emphasis is placed on group functionality and reaction mechanisms. Laboratory work illustrates organic synthesis, reactions, chemical analysis, and spectroscopic identification.