

Chemistry

Chemistry minor checklist

FACULTY: N. Szczepanski.

Minor in Chemistry

The Chemistry Department offers a minor in Chemistry. It requires four 300-level courses in the department, including Chemistry 313, 331 and 332. The remainder of the student's program is developed in conference with a member of the department and the student's advisor in the major.

All of the chemistry courses are taught with a required laboratory. The laboratories are equipped with modern instrumentation including electronic balances, high performance liquid chromatograph, gas chromatograph, spectrophotometers (nuclear magnetic resonance, ultraviolet, visible and infrared), computer interfacing for experiments, pH meters, combustion bomb and refractometers. A computer laboratory is also located within the Chemistry Department.

Courses

CHEM 131. ORGANIC AND BIOLOGICAL CHEMISTRY FOR NONMAJORS. (4)

Introductory survey of organic and biological chemistry for non-science majors. Structures and properties of organic molecules and biochemical systems. This course does not satisfy the prerequisite for any courses requiring Chemistry 222. Prerequisite: High school chemistry or permission of instructor.

CHEM 221, 222. GENERAL CHEMISTRY. (4, 4) Introductory survey of chemistry. Atomic and molecular structure, chemical bonding and energy, the physical states, reaction rates, and chemical equilibrium. A systematic survey of the elements. For science majors. Prerequisites: Familiarity with basic algebra is expected, and high school chemistry or permission of instructor. Chemistry 221 is a prerequisite for 222.

CHEM 313: QUANTITATIVE ANALYSIS. (4) Volumetric and gravimetric analysis, including both theoretical and laboratory applications, introduction to instrumental analysis, and detailed analysis of unknowns. Prerequisites: Chemistry 222 and Math 131 or the equivalent.

CHEM 331, 332. ORGANIC CHEMISTRY. (4, 4) Introduction to organic chemistry. Nomenclature, chemical and physical properties of the functional groups, relation of reaction mechanism and structure to chemical and physical behavior. Prerequisite: Chemistry 222 or equivalent. A grade of C or better in Chemistry 331 is a prerequisite for 332.

CHEM 333. BIOLOGICAL CHEMISTRY. (4) The basic concepts which give rise to the vast diversity of biochemical processes in living organisms. Topics include anabolism and catabolism of carbohydrates, fats, proteins and nucleic acids, generation of energy, and selected topics from physiological and developmental biochemistry. Three class hours and three laboratory hours per week. May be taken for biology or chemistry credit (see Biology 333). Prerequisites: Chemistry 331 and two semesters of biology. A second semester of organic chemistry is strongly recommended. Offered every other spring.