

CHEMISTRY (CHE)

CHE503. Advanced Organic Chemistry . 3 Credits.

Topics of current interest in organic research.

Prerequisites:

- CHE 319 with a minimum grade of D-

Restrictions:

- Must have the following level: Graduate

CHE509. Spectrometric Identification of Organic Compounds . 3 Credits.

Application of spectrometry (mass, infrared, ultraviolet and nuclear magnetic resonance) to the identification of organic compounds.

Prerequisites:

- CHE 319 with a minimum grade of D- and PHY 202 with a minimum grade of D-

Restrictions:

- Must have the following level: Graduate

CHE512. Advanced Inorganic Chemistry . 3 Credits.

Atomic structure, periodicity, ionic and covalent bonding. Acid-base and solution chemistry. Bonding theories and structure of transition metal complexes.

Prerequisites:

- CHE 314 with a minimum grade of D- and CHE 321 with a minimum grade of D-

Restrictions:

- Must have the following level: Graduate

CHE531. Separation Methods in Chemistry . 3 Credits.

A course that applies physical, chemical and equilibrium properties to the problems of isolating components in analytical processes with emphasis on chromatographic procedures. Applications from current literature.

Prerequisites:

- CHE 303 with a minimum grade of D- and CHE 321 with a minimum grade of D-

Restrictions:

- Must have the following level: Graduate

CHE535. Chemical Engineering for Chemists . 3 Credits.

Expands skills and techniques acquired in physical chemistry by providing applications to large systems of reaction occurring in flow systems. Introduction to the mass, momentum and energy balances and design concepts familiar to chemical engineers. Not for engineers.

Restrictions:

- Must have the following level: Graduate

CHE570. Biochemistry . 3 Credits.

Structure of biomolecules and their assemblies and the chemical reactions of metabolic processes. Molecular aspects of gene replication, transcription and translation.

Prerequisites:

- CHE 319 with a minimum grade of D- and CHE 461 with a minimum grade of D-

Restrictions:

- Must have the following level: Graduate

CHE572. Biotechnology Laboratory . 4 Credits.

Methods of modern biotechnology, including molecular cloning, gene isolation, gene amplification, design and creation of recombinant plasmids and phages, site-specific mutagenesis, isolation and sequencing of recombinant DNA.

Prerequisites:

- CHE 319 with a minimum grade of D- and CHE 461 with a minimum grade of D- and BIO 320 with a minimum grade of D- and BIO 350 with a minimum grade of D-

Restrictions:

- Must have the following level: Graduate

CHE573. Principles of Physical Chemistry . 3 Credits.

Fundamental principles and their application in thermodynamics, solution and phase equilibria, the solid state, and topics such as physical chemistry of surfaces. Not open to undergraduate chemistry majors.

Prerequisites:

- CHE 202 with a minimum grade of D- and MAT 252 with a minimum grade of D-

Restrictions:

- Must have the following level: Graduate

CHE574. Principles of Polymer Sciences . 3 Credits.

Principles of formation and behavior of large molecules and their relationship to industrial and biochemical applications.

Prerequisites:

- CHE 319 with a minimum grade of D-

Restrictions:

- Must have the following level: Graduate

CHE575. Principles of Materials Science . 3 Credits.

Understanding of the relation between the properties of materials and composition and structure. Electronic structure of the atom, and its relationship to the chemical bonding in solids. Atom packing and crystal structures. Relationship of structure, including defects, to mechanical, electrical, and thermal properties of polymers in relation to structure. Composite materials. Surface defects: corrosion, friction, adhesion.

Prerequisites:

- CHE 319 with a minimum grade of D- and PHY 202 with a minimum grade of D-

Restrictions:

- Must have the following level: Graduate

CHE590. Thesis in Chemistry (1-6) . 0 Credits.

An individual research project conducted under the direction of a faculty advisor. Required form available in the Records and Registration Office.

Restrictions:

- Must have the following level: Graduate

CHE593. Chemistry Selected Topic. 3-12 Credits.

Selected topics courses are regularly scheduled courses that focus on a particular topic of interest. Descriptions are printed in the Schedule of Classes each semester. Selected topics courses may be used as elective credit and may be repeated for credit, provided that the topic of the course changes.

Restrictions:

- Must have the following level: Graduate

CHE594. Fieldwork In Chemistry. 0 Credits.

Restrictions:

- Must have the following level: Graduate

CHE595. Indep Study Chemistry. 3-12 Credits.

Restrictions:

- Must have the following level: Graduate

CHE599. Comprehensive Exam Workshop. 0 Credits.

Non-credit workshop for students who wish to devote the semester immediately following the completion of their coursework to prepare for the comprehensive exam.

Restrictions:

- Must have the following level: Graduate
- Must have the following field(s) of study (major, minor or concentration): Chemistry (203)

CHE693. Chemistry Selected Topic. 3-12 Credits.

Restrictions:

- Must have the following level: Graduate

CHE795. Indep Study Chemistry. 1-12 Credits.

Restrictions:

- Must have the following level: Graduate

CHE799. Continued Registration. 1 Credit.

Restrictions:

- Must have the following level: Graduate