

CHEMISTRY

(845) 257-3790

Master of Arts in Chemistry

The Chemistry Department is not accepting applications to the MA program at this time.

CHE503. Advanced Organic Chemistry . 3 Credits.

Topics of current interest in organic research.

CHE509. Spectrometric Identification of Organic Compounds . 3 Credits.

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

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.

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.

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.

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.

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.

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.

CHE574. Principles of Polymer Sciences . 3 Credits.

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

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.

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.

CHE593. Chemistry Selected Topic. 3-12 Credits.

CHE594. Fieldwork In Chemistry. 0 Credits.

CHE595. Indep Study Chemistry. 3-12 Credits.

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.

CHE693. Chemistry Selected Topic. 3-12 Credits.

CHE795. Indep Study Chemistry. 1-12 Credits.

CHE799. Continued Registration. 1 Credit.