

# Chemistry (CHEM)

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## Courses

### **CHEM 520. Thermodynamics and Kinetics. 3 Credits.**

Temperature, heat and work, thermodynamic properties of gases, solids and solutions; homogeneous and heterogeneous equilibria; thermodynamics of electrochemical cells; statistical thermodynamics; calculation of thermodynamic properties; chemical kinetics.

P: graduate status

Fall Only.

### **CHEM 522. Thermodynamics and Kinetics Laboratory. 1 Credit.**

Laboratory course to accompany Chem 520.

P: gr st; and Chem 520 or conc enr

Fall Only.

### **CHEM 530. Biochemistry. 3 Credits.**

Nature and function of the important constituents of living matter, their biosynthesis and degradation; energy transformation, protein synthesis and metabolic control.

P: gr st.

Fall Only.

### **CHEM 531. Biochemistry Laboratory. 1 Credit.**

Laboratory course to accompany Chem 530.

P: gr st.

Fall Only.

### **CHEM 602. Advanced Organic Chemistry. 3 Credits.**

Physical organic approach to chemistry; reaction mechanisms, molecular orbital theory, conservation of orbital symmetry, aromaticity, stereochemistry, linear free energy relationships, isotopes effects, pericyclic reactions, photochemistry, natural products and advanced topics in molecular spectroscopy.

P: gr st.

Fall Odd.

### **CHEM 603. Advanced Organic Chemistry Laboratory. 1 Credit.**

Laboratory course to accompany Chem 602; advanced molecular spectroscopy, organic qualitative analysis, physical organic chemistry experiments.

P: Chem 602 or conc enr.

Fall Odd.

### **CHEM 613. Instrumental Analysis. 4 Credits.**

Theory and practice of analysis by instrumental methods, including methods based on absorption and emission of radiation, electroanalytic methods, chromatographic methods and radiochemical methods.

P: gr st.

Fall Only.

### **CHEM 617. Nuclear Physics and Radiochemistry. 3 Credits.**

Properties and reactions of atomic nuclei; application of the properties of radioactive nuclei to the solution of chemical, physical, biological and environmental problems.

P: gr st.

Spring Even.