

# DIVISION OF CHEMISTRY AND BIOCHEMISTRY

Web Site: <http://www.twu.edu/chemistry-biochemistry/>

## Courses

**CHEM 5013. Advanced Physical Chemistry.** Fundamental laws, states of matter, thermodynamics of solutions, and chemical equilibria with an emphasis on biological systems. Three lecture hours a week. Credit: Three hours.

**CHEM 5101. Seminar.** Presentation of chemical papers of current interest, followed by discussion. Prerequisite: One semester of graduate work. One seminar hour a week. Credit: One hour.

**CHEM 5213. Advanced Organic Chemistry.** Problems and techniques of modern theoretical organic chemistry. Three lecture hours a week. Credit: Three hours.

**CHEM 5323. Advanced Analytical Chemistry.** Activity and equilibrium in water and nonaqueous solvents; precipitation, complexation, redox, electrochemical, and separative processes; sampling and statistics. Instrumentation. Three lecture hours a week. Credit: Three hours.

**CHEM 5523. Advanced Inorganic Chemistry.** Theory and description applicable to the elements and their inorganic compounds; bonding, structure stereochemistry, complexes, acid-base theory. Three lecture hours a week. Credit: Three hours.

**CHEM 5613. Advanced Biochemistry I.** Chemistry and structure of biomolecules (carbohydrates, lipids, amino acids and proteins, nucleotides and nucleic acids). Three lecture hours a week. Credit: Three hours.

**CHEM 5623. Advanced Biochemistry II.** Chemistry and metabolism of biomolecules (proteins, enzymes, nucleic acids, carbohydrates, and lipids). Pre-requisite: CHEM 5613. Three lecture hours a week. Credit: Three hours.

**CHEM 5891. Research in Chemistry.** Original research. May be used as thesis subject. May be repeated for additional credit. Prerequisite: Permission of the instructor. Credit: One hour.

**CHEM 5893. Research in Chemistry.** Original research. May be used as a thesis subject. May be repeated for additional credit. Prerequisite: Permission of the instructor. Credit: Three hours.

**CHEM 5896. Research in Chemistry.** Original research. May be used as a thesis subject. May be repeated for additional credit. Prerequisite: Permission of the instructor. Credit: Six hours.

**CHEM 5903. Special Topics.** Lectures or conferences on recent developments in chemical theory or practice. May be repeated with change of topic for additional credit. Prerequisite: Permission of the instructor. Three lecture hours a week. Credit: Three hours.

**CHEM 5911. Independent Study.** Independent student readings or experimentation in chemistry. Prerequisite: Permission of instructor. Credit: One hour.

**CHEM 5912. Independent Study.** Independent student readings or experimentation in chemistry. Prerequisite: Permission of instructor. Credit: Two hours.

**CHEM 5913. Independent Study.** Independent student readings or experimentation. Prerequisite: Permission of instructor. Credit: Three hours.

**CHEM 5953. Internship.** Cooperative work-study arrangement between business, industry, or selected institution and the University. Pre-planning and evaluation will involve approximately 10% of the practicum hours per week. May be repeated for credit. Nine practicum hours a week. Credit: Three hours.

**CHEM 5956. Internship.** Cooperative work-study arrangement between business, industry, or selected institution and the University. Pre-planning and evaluation will involve approximately 10% of the practicum hours per week. May be repeated for credit: Eighteen practicum hours a week. Credit: Six hours.

**CHEM 5973. Professional Paper.** Written presentation of literature and possible laboratory and/or statistical research in a selected area of chemistry. Credit: Three hours.

**CHEM 5983. Thesis.** Credit: Three hours.

**CHEM 5993. Thesis.** Prerequisite: CHEM 5983. Credit: Three hours.

**SCI 5903. Special Topics.** Advanced topics in general science. Three lecture hours a week. Credit: Three hours.

**SCI 5911. Independent Study.** Independent student readings or study in general sciences. Prerequisite: Permission of the instructor. Credit: One hour.

**SCI 5913. Independent Study.** Independent student readings or study in general science. Prerequisite: Permission of the instructor. Credit: Three hours.