

Chemistry

Max Taylor,
Graduate Program Coordinator

The Department of Chemistry has long offered a Master of Science degree in chemistry. The program is designed for students who are locally employed and wish to advance their knowledge and professional careers by taking advanced work in chemistry and related disciplines. Most courses are offered in the late afternoon or evening. Candidates for the M.S. degree must take a minimum of 30 semester hours in chemistry and related subjects. Of these hours, 6 semester hours must be devoted to original research. A publishable thesis is required for graduation based on this research. Of the remaining 24 semester hours, up to a maximum of 12 semester hours may be taken at the graduate level in cognate fields such as engineering, education, mathematics, business or biology. Individual programs are developed in conference between the student and the advisor.

Course Descriptions

CHM 500 Chemical Topics **1-3 hrs.**

Topics of special interest which may vary each time course is offered. Topic stated in current Schedule of Classes. Prerequisite: CHM 351, 461.

CHM 509 Advanced Inorganic Chemistry **3 hrs.**

Theoretical-descriptive approach to inorganic chemistry. Emphasis on dependence of selected chemical and physical characteristics of elements and compounds on extranuclear structure. Prerequisites: CHM 320, 461.

CHM 510 Advanced Inorganic Chemistry

Laboratory **1 hr.**

Laboratory work in inorganic chemistry. Prerequisite: CHM 509 or concurrent enrollment.

CHM 530 Advanced Analytical Chemistry **4 hrs.**

Theory and applications of modern qualitative, quantitative, and instrumental methods. Prerequisite: CHM 320, 462.

CHM 550 Industrial Organic Chemistry **1 hr.**

Survey of modern industrial organic chemistry; emphasis on petroleum derivatives. Prerequisite: one year of organic chemistry.

CHM 551 Advanced Organic Chemistry **3 hrs.**

Organic reactions and reaction mechanisms. Prerequisite: CHM 351.

CHM 556 Organic Spectroscopy **3 hrs.**

Characterization/identification of compounds using spectrometric methods. Not open to students with credit in CHM 356 or equivalent. Prerequisites: CHM 351 or equivalent.

CHM 568 Selected Topics in Biochemistry 1-3 hrs.

Content and credit will vary as indicated in current schedule of classes. May be repeated for up to eight credits, with no more than two credits counting towards the major. Prerequisite: CHM 366.

CHM 630 Advanced Chemical Instrumental

Analysis 3 hrs.

Modern chemical instrumental analysis: theory of operation of instruments and related chemical theory. Lecture and laboratory. Prerequisite: CHM 530.

CHM 652 Advanced Organic Chemistry 3 hrs.

Theoretical aspects of organic chemistry: stereoisomerism, conformational analysis, molecular rearrangements, and electronic interpretations of organic reactions. Prerequisite: CHM 551.

CHM 671 Reading in Chemistry 1-6 hrs. total

Directed reading for qualified students. Maximum of 3 hrs. per semester. Prerequisite: CHM 509 or 551.

CHM 683 Research 1-6 hrs.

Required of all candidates for the Master of Science degree in chemistry. Prerequisite: accepted thesis proposal.

CHM 699 Thesis 1-6 hrs.

Research and thesis preparation. Open to students in the MNS program only. Repeatable for up to 6 hours credit. A student can receive no more than a total of 6 hours credit in BIO 699 or CHM 699 or PHY 699. Prerequisite: consent of program coordinator.