

CHEMISTRY (CHEM)

CHEM 52100 Advanced Organic Chemistry (LA)

Advanced Organic Chemistry.

3 Credits

CHEM 53200 Bio-Organic Chemistry (LA)

Advanced study of the modern interface of chemistry and biology, as well as an examination of current developments in biotechnology. Topics include combinatorial chemistry and modern synthetic methods, protein engineering, innovative approaches to drug design, enzyme mimics, and in vitro evolution of functional biopolymers. Prerequisite: Graduate student in good standing or permission of instructor. (IRR)

3 Credits

CHEM 54000 Inquiry and the Nature of Science for the Science Teacher

Considers issues pertaining to the nature and practice of science, especially as they relate to science education. Explores aspects that distinguish scientific inquiry from other forms of inquiry. Examines safety issues of teaching science in a classroom, and teaching science in the context of the community. Cross-listed with BIO 54000, ENVS 54000, and PHYS 54000. Students can receive credit for only one of: BIOL 54000, CHEM 54000, ENVS 54000, and PHYS 54000. Prerequisites: Graduate student in good standing. (IRR)

3 Credits

CHEM 54100 Science Topics Every Science Teacher Should Know (LA)

Review of the major science topics all science teachers should know as recommended by the National Science Teachers Association. Cross-listed with BIOL 54100, ENVS 54100, and PHYS 54100. Students can receive credit for only one of: BIOL 54100, CHEM 54100, ENVS 54100, PHYS 54100. Prerequisite: Graduate student in good standing. (F, Y)

3 Credits

CHEM 54200 Computational Chemistry (LA)

Advanced study of the theoretical aspects of computational modeling, its utility and limitations in predicting electronic structures, molecular geometries, chemical dynamics, and chemical reactivity. In addition, the student will gain a hands-on, working knowledge of modern computational methods. Prerequisite: Graduate student in good standing or permission of instructor. (IRR)

3 Credits

CHEM 55200 Instrumental Analysis (LA)

Advanced study of the principles and applications of modern analytical instrumentation through hands-on experience with a wide variety of instrumental techniques. Prerequisite: Graduate student in good standing or permission of instructor. (IRR)

3 Credits

CHEM 69100 Independent Research in Chemistry

Original research participation with a faculty member in a specialized field. Designed to strengthen the student's understanding of the nature of science, science research methodology, and the scientific literature. Course may be repeated for credit, up to a maximum of Offered on demand only. Prerequisite: Permission of instructor. (IRR)

3-6 Credits

CHEM 69800 Education Research for the Science Teacher (LA)

Original research participation with a science education faculty member.

Designed to strengthen student understanding of science education research methodology and the science education research literature.

Cross-listed with BIOL 69800, ENVS 69800, and PHYS 69800. Students can receive credit for only one of: BIOL 69800, CHEM 69800, ENVS 69800, PHYS 69800. Offered on demand only. Prerequisite: Graduate student in good standing. (SU, IRR)

3 Credits