Chemistry—CEM

918 Inorganic Chemistry Seminar
Fall, Spring. 1(1-0) A student may earn a maximum of 3 credits in all enrollments for this course. R: Open only to graduate students in Chemistry.

Advances in inorganic chemistry reported by graduate students.

924 Selected Topics in Analytical Chemistry
Fall, Spring. 2 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to graduate students in College of Natural Science or College of Engineering.

Advanced computer techniques, surface chemistry, analytical chemistry of polymers, or statistics for chemists.

938 Analytical Chemistry Seminar
Fall, Spring. 1(1-0) A student may earn a maximum of 3 credits in all enrollments for this course. R: Open only to graduate students in College of Natural Science or College of Engineering.

Discipline in analytical chemistry reported by graduate students, faculty, and guest lecturers.

956 Selected Topics in Organic Chemistry
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to graduate students in College of Natural Science or College of Engineering.

Heterocyclic and organometallic chemistry, natural products, photochemistry, free radicals, or reaction mechanisms.

958 Organic Chemistry Seminar
Fall, Spring. 1(1-0) A student may earn a maximum of 2 credits in all enrollments for this course. R: Open only to graduate students in College of Natural Science or College of Engineering.

Advances in organic chemistry reported by graduate students.

971 Emerging Topics in Chemistry
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to doctoral students in the Chemistry or Chemical Physics major.

Discussion of a research topic of emerging interest in chemistry. Preparation of a proposal for funding of research.

987 Selected Topics in Physical Chemistry I
Fall. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to doctoral students in Chemistry or approval of department.

Topics such as kinetics and photochemistry, macromolecular and surface chemistry, molecular spectroscopy, electric and magnetic properties of matter, or applications of statistical mechanics to chemical problems.

988 Selected Topics in Physical Chemistry II
Spring. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to doctoral students in Chemistry or approval of department.

Topics such as analysis and interpretation of molecular spectra, advanced molecular structure theory, magnetic resonance, X-rays and crystal structure, scientific analysis of vacuum systems, or problems in statistical mechanics.

991 Quantum Chemistry and Statistical Thermodynamics I
Fall. 3(3-0) R: Open only to graduate students in College of Natural Science or College of Engineering.

Principles and applications of quantum chemistry. Partition functions, spectroscopic measurements, and thermodynamic applications.

992 Quantum Chemistry and Statistical Thermodynamics II
Spring. 3(3-0) R: (CEM 991)

Analytical and numerical methods for solving quantum chemical problems. Statistical mechanics of solids and liquids.

993 Advanced Topics in Quantum Chemistry
Spring of odd years. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to graduate students in the College of Natural Science or the College of Engineering.

Spectroscopic theory, properties of atoms and molecules in electric and magnetic fields, intermolecular forces. Many-body theory, molecular electronic structure, solid state chemistry, or molecular reaction dynamics.

994 Advanced Topics in Statistical Mechanics
Spring of even years. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to graduate students in Chemistry.

Nonequilibrium statistical mechanics and thermodynamics. Correlation functions and spectroscopy, light scattering, magnetic relaxation, transport properties of fluids and gases, or statistical mechanics of chemical reactions.

998 Physical Chemistry Seminar
Fall, Spring. 1(1-0) A student may earn a maximum of 3 credits in all enrollments for this course. R: Open only to graduate students in Chemistry.

Advances in physical chemistry reported by graduate students.

999 Doctoral Dissertation Research
Fall, Spring. Summer. 1 to 24 credits. A student may earn a maximum of 120 credits in all enrollments for this course. R: Open only to doctoral students in Chemistry and Chemical Physics.

Doctoral dissertation research.

101 Elementary Chinese I
Fall. 5(5-0) Not open to students with credit in CHS 112.

Pronunciation, writing system, and basic vocabulary and sentence patterns, with emphasis on conversation.

CHINESE

Department of Linguistics and Germanic, Slavic, Asian and African Languages
College of Arts and Letters

102 Elementary Chinese II
Spring. 5(5-0) P:M: (CHS 101) Not open to students with credit in CHS 105.

Further work on conversation, character writing, and comprehension, with increasing emphasis on vocabulary building and grammar.

105 Introductory Chinese with Business Emphasis
Summer. 5(5-0) SA: CHS 111, CHS 112 Not open to students with credit in CHS 101.

Beginning-level speaking, listening comprehension, and reading for Chinese in business-related contexts. Economic conditions and business culture in China.

201 Second-Year Chinese I
Fall. 5(5-0) P:M: (CHS 102)

Intermediate-level work on skills in conversation, comprehension, and grammar. Practice in composition.

202 Second-Year Chinese II
Spring. 5(5-0) P:M: (CHS 201)

Further intermediate-level work on skills in conversation, comprehension, and grammar. Continued practice in composition.

301 Third-Year Chinese I
Fall. 4(4-0) P:M: (CHS 202)

Advanced-level work on speaking, listening comprehension, reading, and writing skills, based on materials of cultural interest.

302 Third-Year Chinese II
Spring. 4(4-0) P:M: (CHS 301)

Advanced-level work on speaking, listening comprehension, reading, and writing skills, based on materials of cultural interest.

350 Studies in the Chinese Language
Spring. 3(3-0) P:M: (CHS 201)

Grammatical structures of modern Chinese. Grammar review, sound system, word formation, sentence and discourse structures, historical evolution of the Chinese language, dialects, sociolinguistics.

401 Fourth-Year Chinese I
Fall. 3(3-0) P:M: (CHS 302)

Reading, discussion, and writing of advanced materials, including classical texts of broad cultural interest.

402 Fourth-Year Chinese II
Spring. 3(3-0) P:M: (CHS 401)

Further reading, discussion and writing based on original materials, including classical texts of broad cultural interest.

499 Senior Thesis Research
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Approval of department.

An individual research project supervised by a faculty member that demonstrates the student's ability to do independent research and submit or present a major paper.