

<p>Introduction to Chemistry (3) (Fall, Spring, Summer) Examination of basic chemical concepts and role of chemistry in modern society. For students not majoring in sciences. Not counted toward chemistry major or minor. Applicable to the BG Perspective (general education) natural sciences requirement.</p>	<p>CHEM 1000</p>
<p>Elementary Chemistry (3) (Fall, Spring, Summer) General chemistry and introduction to organic chemistry. Not accepted toward chemistry major or minor. Three lectures. Corequisite: CHEM 110. Prerequisites: two years of high school science and high school algebra or its equivalent. Applicable to the BG Perspective (general education) natural sciences requirement.</p>	<p>CHEM 1090</p>
<p>Elementary Chemistry Laboratory (1) (Fall, Spring, Summer) Exploration of fundamental chemical principles and their application to the solution of environmental, health, and economic problems. Not accepted toward chemistry major or minor. Corequisite: CHEM 109. Applicable to the BG Perspective (general education) natural sciences requirement. Extra fee.</p>	<p>CHEM 1100</p>
<p>Elementary Organic Chemistry and Biochemistry (4) (Fall, Spring) Not accepted toward chemistry major or minor. Survey of principles of organic and biochemistry, with medical applications. Prerequisites: CHEM 109 or CHEM 125, proficiency examination or consent of instructor. Applicable to the BG Perspective (general education) natural sciences requirement.</p>	<p>CHEM 1170</p>
<p>General Chemistry (5) (Fall, Spring, Summer) Chemistry sequence for students majoring in sciences, the liberal arts or in premedical programs. Three lectures, one recitation, one three-hour laboratory. Prerequisites: high school chemistry, algebra and geometry, or CHEM 109 and CHEM 110. Applicable to the BG Perspective (general education) natural sciences requirement. Extra fee.</p>	<p>CHEM 1250</p>
<p>General Chemistry (4)</p>	<p>CHEM 1270</p>

(Fall, Spring, Summer) Three lectures, one recitation. CHEM 125 continued. Prerequisite: C or better in CHEM 125 or CHEM 135. Corequisite: CHEM 128. Applicable to the BG Perspective (general education) natural sciences requirement.

<p>General Chemistry Laboratory (1) (Fall, Spring, Summer) One three-hour laboratory. Includes some qualitative analysis. Prerequisite: C or better in CHEM 125 or CHEM 135. Corequisite: CHEM 127. Applicable to the BG Perspective (general education) natural sciences requirement. Extra fee.</p>	CHEM 1280
<p>General Chemistry (5) (Fall) General chemistry sequence for well-prepared students. Three lectures, one recitation, one three-hour laboratory. Prerequisites: high school chemistry or CHEM 109 and CHEM 110. Corequisite: MATH 130 or MATH 131. Applicable to the BG Perspective (general education) natural sciences requirement. Extra fee.</p>	CHEM 1350
<p>General Chemistry (4) (Spring) CHEM 135 continued. Four lectures. Prerequisites: C or better in CHEM 135, or B or better in CHEM 125 and consent of instructor. Corequisite: CHEM 138. Applicable to the BG Perspective (general education) natural sciences requirement.</p>	CHEM 1370
<p>General Chemistry Laboratory (1) (Spring) One three-hour laboratory. Emphasis on quantitative procedures. Prerequisite: C or better in CHEM 125 or CHEM 135. Corequisite: CHEM 137. Applicable to the BG Perspective (general education) natural sciences requirement. Extra fee.</p>	CHEM 1380
<p>Introduction to Forensic Science (3) (Fall, Spring) A survey of the field of forensic science--the application of science to the law. Topics include the identification, proper collection, storage, documentation, and analysis of evidence through microscopy, wet chemistry, spectroscopic methods, toxicology, serology, DNA typing and fingerprinting. No prerequisites. Not accepted toward chemistry major or minor. Applicable to the BG Perspective (general education) natural sciences requirement.</p>	CHEM 1770
<p>Introduction to Elementary Organic Chemistry (1) (Fall, Spring) Not accepted toward chemistry major or minor. Provides a link between the CHEM 125-CHEM 127-CHEM 128 sequence and CHEM 117; concurrent with the last one-third of</p>	CHEM 1990

CHEM 109. Three lectures, one three-hour laboratory. Prerequisites or corequisites: CHEM 125 and consent of department.

<p>Quantitative Chemical Analysis (3) (Fall) Theory and practice of quantitative analysis: volumetric, spectrophotometric and electrochemical methods. Two lectures, one three-hour laboratory. Prerequisite: C or better in CHEM 127 and CHEM 128. Extra fee.</p>	CHEM 2010
<p>Organic Chemistry (4) (Fall, Spring, Summer) A survey course of organic chemistry including an introduction to biomolecules. For students who do not require full-year course. Not accepted toward chemistry major. Three lectures, one three-hour laboratory. Prerequisites: CHEM 127 and CHEM 128 or CHEM 137 and CHEM 138. Extra fee.</p>	CHEM 3060
<p>Basic Biochemistry (3) (Spring, Summer) Three lectures. A survey course of biochemistry including biomacromolecules and metabolism. For students whose program does not require full-year course. Prerequisite: CHEM 344 and CHEM 345 or CHEM 346 or C or better in CHEM 306; BIOL 104 and CHEM 201 recommended.</p>	CHEM 3080
<p>Elementary Biochemistry Laboratory (1) (Spring, Summer) Basic biochemical techniques. One three-hour laboratory. Prerequisite or corequisite: CHEM 308 or CHEM 445. Extra fee.</p>	CHEM 3090
<p>Special Topics in Chemistry (1-3) (Fall, Spring, Summer) Specific topics of current interest in chemistry. Not applicable toward minimum 32-hour major or 20-hour minor. May be repeated with different topics.</p>	CHEM 3130
<p>Organic Chemistry (5) (Fall, Summer) Structure and reactivity of organic substances. Four lectures, one three-hour laboratory. Prerequisites: CHEM 127 and CHEM 128 or CHEM 137 and CHEM 138. Extra fee.</p>	CHEM 3410
<p>Organic Chemistry (3) (Spring, Summer) CHEM 341 continued. Three lectures. Prerequisite: C or better in CHEM 341. Corequisites: CHEM 345 or CHEM 346.</p>	CHEM 3440
<p>Organic Chemistry Laboratory (2) (Spring, Summer) Two three-hour laboratories. For chemistry majors and others requiring a strong background in experimental chemistry. Prerequisite: C or better in CHEM 341. Corequisite: CHEM 344. Extra fee.</p>	CHEM 3450

<p>Organic Chemistry Laboratory (1) (Spring, Summer) One three-hour laboratory. Laboratory synthesis and properties of organic molecules. Prerequisite: C or better in CHEM 341. Corequisite: CHEM 344. Extra fee.</p>	CHEM 3460
<p>Physical Chemistry (3) (Fall) Three lectures. A survey course of Physical Chemistry. For students whose program does not require full-year course. Prerequisites: CHEM 127-CHEM 128 and CHEM 201 or CHEM 137-CHEM 138, MATH 130. Prerequisite or corequisite: PHYS 202 or PHYS 212.</p>	CHEM 3520
<p>Numerical Methods in Chemistry (1) (Spring) Use of computers and numerical methods in chemistry; survey of computer graphics and microcomputer-based instrumentation in chemical research. Prerequisite or corequisite: CHEM 405.</p>	CHEM 4020
<p>Physical Chemistry (4) (Fall) Four lectures. Thermodynamics and quantum chemistry. Prerequisites: CHEM 137-CHEM 138 or CHEM 127-CHEM 128 and CHEM 201; MATH 232 and either PHYS 212 or PHYS 202. Corequisite: CHEM 407.</p>	CHEM 4050
<p>Physical Chemistry (4) (Spring) CHEM 405 continued. Electrochemistry, kinetics, spectroscopy and molecular structure. Prerequisite: CHEM 405.</p>	CHEM 4060
<p>Integrated Analytical and Physical Laboratory (2) (Fall) Two three-hour laboratories. Principles of measurement; spectral, chromatographic and electroanalytical techniques; thermodynamic and kinetic measurements; computerized data acquisition. Prerequisite or corequisite: CHEM 405 or CHEM 352. Extra fee.</p>	CHEM 4070
<p>Integrated Analytical and Physical Laboratory (2) (Spring) CHEM 407 continued. Prerequisite: CHEM 407; prerequisite or corequisite: CHEM 406. Extra fee.</p>	CHEM 4080
<p>Undergraduate Research (1-3) (Fall, Spring, Summer) Independent study and research. Three to nine hours of laboratory, one half-hour conference each week. Not applicable toward minimum requirements of major or minor. Prerequisites: consent of instructor, 20</p>	CHEM 4130

hours of CHEM or consent of department, 2.5 minimum overall GPA. May be repeated, but no more than six hours credit may be applied toward degree.

<p>Bioinorganic Chemistry (3) (Spring) Three lectures. Role of inorganic chemistry in biological processes. Biological role of metal ions, structure and function of metalloproteins, electron-transfer reactions and medicinal applications of metal complexes. Prerequisites: CHEM 406 and CHEM 463.</p>	CHEM 4160
<p>Organic Reaction Mechanisms (3) (Spring) Fundamentals of organic reaction mechanisms and methods of their elucidation. Prerequisite: CHEM 344 and CHEM 345 or CHEM 346. Prerequisite or corequisite: CHEM 405.</p>	CHEM 4420
<p>General Biochemistry (3) (Fall) Three lectures. Structure, function, chemical, and physical properties of biomolecules with an emphasis on biomacromolecules. Prerequisite: CHEM 344 and CHEM 345 or CHEM 346. BIOL 205 is strongly recommended.</p>	CHEM 4450
<p>Biochemistry Laboratory (1) (Fall) Experimental techniques in biochemistry. Three-hour laboratory. Prerequisite or corequisite: CHEM 445. Extra fee.</p>	CHEM 4460
<p>General Biochemistry (3) (Spring) Three lectures. Energetics and regulation of metabolic processes. Prerequisite: CHEM 445.</p>	CHEM 4470
<p>Instrumental Methods of Analysis (3) (Spring) Theory of instrumental methods of analysis including electroanalytical, spectroscopic and chromatographic methods. Prerequisite: CHEM 407 or consent of instructor.</p>	CHEM 4540
<p>Advanced Inorganic Chemistry (3) (Fall) Chemical bonding, stereochemistry, acid-base chemistry, periodicity, nonmetal and transition metal chemistry, organometallic and bioinorganic chemistry. Prerequisite: CHEM 405.</p>	CHEM 4630
<p>Spectroscopic Methods in Organic Chemistry (3) (Fall) Organic structure determination by spectroscopic techniques, with emphasis on infrared, ultraviolet and nuclear magnetic resonance spectroscopy, and mass spectrometry. Prerequisite: CHEM 344 and CHEM 345 or CHEM 346. Prerequisite or corequisite: CHEM 405.</p>	CHEM 4660

Advanced Topics in Chemistry (1-3)

(Fall, Spring, Summer) Rigorous study of specific topics of current interest. Not applicable toward minimum 32-hour major or 20-hour minor. May be repeated with different topics. Prerequisite: CHEM 344 and CHEM 345 or CHEM 346 or consent of instructor.

CHEM 4830