

CHEMISTRY AND BIOCHEMISTRY (CHE)

- 100. Introductory Chemistry.** 4 hrs. A preparatory course (for CHE 106) in chemical fundamentals; does not satisfy core requirements in any academic college
- 104. Chemistry and Our Environment.** 3 hrs. For nonscience majors. Emphasis on the impact of chemical discovery and technology on the individual and society; concurrent registration in CHE 104L is required
- 104L. Chemistry and Our Environment Laboratory.** 1 hr. A laboratory designed to accompany CHE 104. Concurrent registration in CHE 104 is required
- 106. General Chemistry I.** 3 hrs. Prerequisites: High school chemistry AND a passing score on the placement exam. Alternately, a grade of C or higher in CHE 100 will satisfy all prerequisites. Molecular structure, stoichiometry, the mole concept, gases, types of solutions, energy-enthalpy; concurrent registration in CHE 106L is required (CC 1213, 1214, 1215)
- 106L. General Chemistry I Laboratory.** 1 hr. A laboratory designed to accompany CHE 106. Concurrent registration in CHE 106 is required (CC 1211)
- 107. General Chemistry II.** 3 hrs. Prerequisites: CHE 106, 106L. Kinetics, equilibria, thermodynamics, electrochemistry, nuclear chemistry, coordination compounds. Concurrent registration in CHE 107L is required (CC 1223, 1224, 1225)
- 107L. General Chemistry II Laboratory.** 1 hr. A laboratory designed to accompany CHE 107. Concurrent registration in CHE 107 is required (CC 1221)
- 251. Elementary Organic Chemistry.** 3 hrs. Prerequisite: CHE 106, 106L. A course which includes nomenclature and reactions of aliphatic and aromatic hydrocarbons, acids, aldehydes, ketones, and amines and stereochemistry. Concurrent registration in CHE 251L is required (CC 2413, 2414)
- 251L. Elementary Organic Chemistry Laboratory.** 1 hr. A laboratory designed to accompany CHE 251. Concurrent registration in CHE 251 is required (CC 2411)
- 255. Organic Chemistry I.** 3 hrs. Prerequisite: CHE 107, 107L. Aliphatic compounds: nomenclature, reaction mechanisms, stereochemistry concurrent registration in CHE 255L is required (CC 2423, 2424, 2425)
- 255L. Organic Chemistry I Laboratory.** 1 hr. A laboratory designed to accompany CHE 255. Concurrent registration in CHE 255 is required (CC 2421, 2422)
- 256. Organic Chemistry II.** 3 hrs. Prerequisite: CHE 255, 255L. Aromatic compounds, acids, acid derivatives, aldehydes, ketones, amines, phenols and spectroscopic analysis. Concurrent registration in CHE 256L is required (CC 2433, 2434, 2435)
- 256L. Organic Chemistry II Laboratory.** 2 hrs. A laboratory designed to accompany CHE 256. Concurrent registration in CHE 256 is required (CC 2431, 2432)
- 300. Chemical Safety.** 3 hrs. Prerequisite: CHE 251, 251L or 256, 256L or permission of the instructor. Hazards of various commonly used chemicals. Includes three hours of laboratory per week
- 311. Analytical Chemistry.** 3 hrs. Prerequisite: CHE 107, 107L. Statistics. Chemical Equilibria; methods of quantitative chemical analysis; should be taken as soon as possible after general chemistry; concurrent registration in CHE 311L required
- 311L. Analytical Chemistry Laboratory.** 2 hrs. A laboratory designed to accompany CHE 311. Concurrent registration in CHE 311 required
- 331. Descriptive Inorganic Chemistry.** 2 hrs. Prerequisites: CHE 256, 256L. Chemistry of the elements emphasizing the synthesis, structure, reactions and periodic trends of inorganic compounds
- 332. Natural Products Chemistry in the Caribbean.** 4 hrs. Prerequisite: CHE 251 or 255. Study of medicinal compounds found in Caribbean organisms
- 392. Introduction to Research.** 1-3 hrs. A junior level research problem performed under the direction of a faculty advisor and terminated by a formal written report; may be repeated once for credit
- 400. Chemical Literature.** 2 hrs. Prerequisite: CHE 256, 256L. The selection and use of the reference materials of chemistry (periodicals, journals, texts, patents, etc.), and the development of writing skills
- 404. Spectral Elucidation of Structure.** 3 hrs. Prerequisites: CHE 256, 256L and 311, 311L. Applications of vibrational, electronic, nuclear magnetic resonance and mass spectrometry to structure determination
- 409. Chemistry Laboratory Teaching.** 1 hr. Prerequisite: Permission of instructor. Instruction and practice for teaching assistants in the academic chemistry laboratory
- 410. Safety Principles and Procedures in the Chemical Sciences.** 1 hr. Common laboratory hazards and their remediation
- 411. Instrumental Analysis.** 3 hrs. Prerequisite: CHE 461, 461L. Pre- or corequisite: CHE 462, 462L. Theory and practice of instrumental methods of analysis; absorption spectroscopy, chromatography, magnetic resonance, mass spectroscopy, electro-metric methods and fundamental electronics; concurrent registration in CHE 411L is required
- 411L. Instrumental Analysis Laboratory.** 1 hr. A laboratory designed to accompany CHE 411. Concurrent registration in CHE 411 is required
- 420. Principles of Biochemistry.** 3 hrs. Prerequisite: CHE 251, 251L or equivalent. A one-semester course covering the fundamentals of biochemistry
- 420L. Principles of Biochemistry Laboratory.** 1 hr. A laboratory designed to accompany CHE 420. Concurrent registration in CHE 420 is required
- 421. Biochemistry I.** 3 hrs. Prerequisite: CHE 256, 256L. The properties of amino acids, proteins, carbohydrates, lipids and nucleic acids; actions of enzymes and signal transduction
- 421L. Biochemistry I Laboratory.** 2 hrs. An optional laboratory course to accompany CHE 421. Concurrent registration in CHE 421 is required
- 422. Biochemistry II.** 3 hrs. Prerequisite: CHE 421. Major metabolic pathways with emphasis on energy considerations and interrelationships of the pathways
- 422L. Biochemistry II Laboratory.** 2 hrs. Prerequisite: CHE 421L. A continuation of CHE 421L. Concurrent registration in CHE 422 is required
- 423. Analytical Biochemistry.** 3 hrs. Prerequisite: CHE 421. A survey of methods used by biochemists to detect and characterize biologically important molecules
- 424. Biochemistry III.** 3 hrs. Prerequisite: CHE 421. Biochemical principles underlying nucleic acid structure, functions and interactions with other biomolecules that mediate molecular changes in living systems
- 431. Inorganic Chemistry.** 3 hrs. Prerequisite: CHE 461, 461L, 462, 462L. Electronic state transitions and spectra, coordination chemistry, reaction kinetics and mechanisms, special topics
- 431L. Inorganic Chemistry Laboratory.** 1 hr. A laboratory designed to accompany CHE 431. Concurrent registration in CHE 431 is required
- 451. Intermediate Organic Chemistry.** 3 hrs. Prerequisite: CHE 256. A survey of selected topics in organic chemistry to include medical, heterocyclic and organometallic chemistry
- 461. Physical Chemistry.** 3 hrs. Prerequisites: CHE 256, 256L, 311, 311L; PHY 202 or 112, and MAT 168 or 178. Chemical thermodynamics. Concurrent registration in CHE 461L is required
- 461L. Physical Chemistry Laboratory.** 1 hr. A laboratory designed to accompany CHE 461. Concurrent registration in CHE 461 is required

-
- 462. Physical Chemistry.** 3 hrs. Prerequisites: CHE 256, 256L, 311 311L; PHY 202 or 112; MAT 168 or 178. Kinetics and quantum chemistry; concurrent registration in CHE 462L is required
- 462L. Physical Chemistry Laboratory.** 1 hr. A laboratory designed to accompany CHE 462; concurrent registration in CHE 462 is required
- 470. Survey of Toxicology.** 3 hrs. Prerequisite: CHE 256. A one semester survey course in toxicology
- 471. Teaching Chemistry in the Secondary School.** 3 hrs. Prerequisites: CHE 256, 256L, 311, 311L, CIS 313; Corequisite: SCE 460. Application of chemical knowledge to designing, developing, and assessing instruction; concurrent registration in CHE 471L is required
- 471L. Laboratory for Teaching Chemistry in the Secondary School.** 1 hr. A laboratory designed to accompany CHE 471. Concurrent registration in CHE 471 is required
- 492. Special Projects.** 1-3 hrs. Prerequisites: CHE 256, 256L and permission of instructor. Highly recommended: CHE 410. A special project performed under the direction of a faculty adviser and terminated by a formal written report; may be repeated once for credit. (Students undertaking a Senior Honors Project will enroll in CHE H492)
- 494. Industrial Internship in Chemistry.** 3 hrs. Prerequisite: Permission of faculty. Structured experience in chemical industry; includes final report; may be substituted for CHE 496
- 496. Research.** 1-3 hrs. Prerequisite: CHE 461, 461L, 462, 462L and permission of instructor. Highly recommended: CHE 410. A senior level research problem performed under the direction of a faculty adviser and terminated by a formal written report; may be repeated once for credit (Students undertaking a Senior Honors Project will enroll in CHE H496.)