

CHEMISTRY - BLOOMFIELD COLLEGE (CHM)

CHM 111 General Chemistry I (4 credits)

Prerequisite(s): CHM 110 or one year of high school Chemistry. This is a comprehensive introduction to the principles of chemistry. The course is intended primarily for students who are majoring in the natural sciences or enrolled in science-based pre-professional programs. Topics include atomic structure, chemical bonding, stoichiometry, patterns of reactivity, gas laws, thermochemistry, and quantum theory. The course consists of lecture, recitation, and one three hour laboratory per week.

CHM 111L Lab - CHM 111 (0 credits)

Corequisite(s): CHM 111.

CHM 112 General Chemistry II (4 credits)

Prerequisite(s): CHM 111; MTH 160 or MTH 161. This course is a continuation of CHM 111. Topics covered include theories of covalent bonding, the liquid and solid states, physical properties of solutions, kinetics, equilibria, chemical thermodynamics, oxidation-reduction, and electrochemistry. The course consists of lecture, recitation, and one three-hour laboratory per week.

CHM 112L Lab - CHM 112 (0 credits)

Corequisite(s): CHM 112.

CHM 120 Fundamentals of Inorganic, Organic and Biochemistry (4 credits)

Corequisite(s): WRT 105 or WRT 106; CHM 120L. This course covers selected principles of inorganic, organic and biochemistry in application to living systems. The course includes lecture, one hour of recitation, and three hours of laboratory per week. This course cannot be used to help fulfill the chemistry requirement for science majors.

CHM 120L Lab - CHM 120 (0 credits)

Corequisite(s): CHM 120.

CHM 301 Organic Chemistry I (3-4 credits)

Prerequisite(s): CHM 112. This course is intended to be a year long study of the structure and reactions of organic compounds. The course focuses on functional groups and reaction mechanisms. Applications to compounds of general public interest are discussed. The course consists of lecture and recitation.

CHM 302 Organic Chemistry II (3-4 credits)

Prerequisite(s): CHM 301. This course is a continuation of CHM 301.

CHM 303 Organic Chemistry I Laboratory (2 credits)

Prerequisite(s): CHM 301 or concurrent registration. This four hour laboratory is associated with CHM 301. The course can (but doesn't have to) be taken concurrently with CHM 301. The course includes basic organic chemical instrumentation, analysis, and techniques.

CHM 304 ORGANIC CHEMISTRY II LAB (2 credits)

CHM 304 ORGANIC CHEMISTRY II LABORATORY*, WRITING INTENSIVE., , This four hour laboratory is associated with CHM, 302 and is a continuation of CHM 303. In addition, to wet chemistry, the course includes lectures, and laboratory exercises on the topics of nuclear, magnetic resonance and infrared spectroscopies. , 0.5 c.u. , Prerequisites: CHM 301, CHM 303, CHM 302 or, concurrent registration in CHM 302.

CHM 401 Biochemistry I (3-4 credits)

Prerequisite(s): CHM 301, CHM 302, CHEM 303, and CHEM 304 is strongly recommended. The course presents proteins, lipids, and carbohydrates from the perspective of organic functional group chemistry, physical chemistry, analytical chemistry, and biochemistry. The acid-base properties, kinetics, thermodynamics and reactions of these biomolecules will be covered. Structure correlated to function will be an integral component of the discussion. The course consists of lecture and recitation. (Also BIO 401)

CHM 402 Biochemistry II (3-4 credits)

Prerequisite(s): BIO 213. This course covers the biochemistry of the nucleic acids and proteins. Topics include DNA replication, transcription, translation, gene regulation, and protein function. The overall regulation of metabolic pathways will also be addressed. (Also BIO 402)

CHM 405 Biochemistry II Laboratory (2 credits)

Corequisite(s): BIO 402 and CHM 402. Prerequisite(s): BIO 213. The course covers basic techniques for the extraction, purification, and characterization of DNA, RNA, and protein molecules. (Also BIO 405)