

Chemistry

CHE 107 Chemistry 3 cr.

This is an introductory course that covers the fundamental laws, terms, and mathematics of general chemistry. It includes treatment of nomenclature, stoichiometry, solution chemistry, and gas laws.

Prerequisite: High school algebra I or MTH 075

Co-requisite: CHE 108
3/0/0 FA/SP/SU

CHE 108 Chemistry Laboratory 1 cr.

This course provides laboratory experiences that illustrate important theories and concepts in basic chemistry. It stresses standard laboratory techniques, scientific equipment and its proper use, and laboratory safety.

Prerequisite: High school algebra I or MTH 075

Co-requisite: CHE 107
0/2/0 Lab fee charged

CHE 115 General Chemistry I 3 cr.

This course is a systematic study of fundamental principles and concepts including: dimension analysis; atomic structure; periodicity; chemical bonding; thermochemical equations; stoichiometry of chemical reactions; the liquid, solid, and gaseous states; and solution chemistry.

Prerequisite: High school chemistry or CHE

107 and CHE 108 and algebra skills equivalent to MTH 095
3/0/0 FA/SP/SU

CHE 116 General Chemistry I Laboratory 1 cr.

This course provides laboratory experiences that apply to the topics and concepts covered in General Chemistry I.

Prerequisite or Co-requisite: CHE 115

0/2/0 FA/SP/SU Lab fee charged

CHE 117 General Chemistry II 3 cr.

This course is a systematic study of thermodynamics, kinetics, equilibrium, ionic equilibria, electrochemistry coordination compounds,

nuclear chemistry, and an introduction to organic reactions.

Prerequisite: CHE 115, CHE 116 and MTH 130
3/0/0 FA/SP/SU

CHE 118 General Chemistry II Laboratory 1 cr.

This course provides laboratory experiences that apply to the topics and concepts covered in General Chemistry II.

Prerequisite or Co-requisite: CHE 117

0/2/0 FA/SP/SU Lab fee charged

CHE 201 Quantitative Analysis 4 cr.

This course provides laboratory experiences in the techniques of volumetric and gravimetric analysis. It examines the theory of chemical equilibrium, pH, and Redox reactions with an emphasis on problem solving.

Prerequisite: CHE 117, CHE 118
2/4/0 Lab fee charged

CHE 210 Nutrition 3 cr.

This course examines the basic concepts in the science of human nutrition and their relationship to the needs of man.

Prerequisite: CHE 107 or CHE 115 or high school chemistry with a grade of "B" or better or permission
3/0/0 FA/SP/SU

CHE 222 Brief Course Organic Chemistry 4 cr.

This course presents the basic nomenclature, structures, reactions, and properties of aliphatic

and aromatic hydrocarbons and their derivatives, including alcohols, esters, ethers, aldehydes, ketones, amines, amides, and others.

It emphasizes the chemistry and properties of natural and synthetic pharmaceuticals and other medically related compounds. The laboratory consists of biochemical experiments.

Prerequisite: CHE 115, CHE 116
3/2/0 Lab fee charged

CHE 228 Chemical Data Acquisition and Processing 2 cr.

This course involves the acquisition and processing of chemical laboratory data using temperature, pH, light, pressure, and voltage sensors to generate data tables and graphs.

It presents techniques including data storage, presentation of graphs and tables, and data spreadsheets. It includes thermochemistry, spectrophotometry, ionic equilibria, electrochemical measurements, gaseous systems, conductance, specific ion measurements and gravimetric analysis.

Prerequisite or Co-requisite: CHE 117, CHE 118

or permission
1/2/0 Lab fee charged

CHE 240 Organic Chemistry I 3 cr.

This course presents the fundamental principles of organic chemistry. It includes basic techniques of organic compound synthesis; structure, properties, and nomenclature of organic compounds; the addition, substitution, elimination and oxidation-reduction reactions of organic compounds; reaction mechanisms; infrared spectroscopy; and a brief introduction to mass spectrometry.

Prerequisite: CHE 117, CHE 118

Co-requisite: CHE 241
3/0/0 FA

CHE 241 Organic Chemistry I Laboratory 1 cr.

This course provides laboratory experiences that apply to the topics and concepts covered in Organic Chemistry I.

Prerequisite or Co-requisite: CHE 240
0/3/0 FA Lab fee charged

CHE 242 Organic Chemistry II 3 cr.

This course is a continuation of Organic Chemistry I. The topics covered in this course include: structure, properties and nomenclature

of organic compounds; the complex synthesis of organic compounds; electrophilic, aromatic, free radical, nucleophilic substitution reactions and their mechanisms; NMR spectroscopy; and an introduction to biochemistry.
Prerequisite: CHE 240, CHE 241
Co-requisite: CHE 243
3/0/0 SP

CHE 243 Organic Chemistry II

Laboratory 1 cr.

This course provides laboratory experiences that apply to the topics and concepts covered in Organic Chemistry II.

Prerequisite or Co-requisite: CHE 242

0/3/0 SP Lab fee charged

CHE 291 Special Projects in

Chemistry 1 cr.

CHE 292 Special Projects in

Chemistry 2 cr.

CHE 293 Special Projects in

Chemistry 3 cr.

Students investigate practical or theoretical problems of a chemical nature. Projects include a combination of literature, laboratory, and instrumental experiences in addition to the application of chemical laws and theories.

Lab hours depend on the project (usually 2 hours per week per credit).

Prerequisite: CHE 115, CHE 116 and project

approval by the instructor

Lab fee charged