

CHEMISTRY (CHEM)

CHEM 100 4.0 UNITS Introductory Chemistry

Class Hours: 3.0 Lecture / 3.0 Laboratory
Total Contact Hours: 54 Lecture / 54 Laboratory

Recommendation: Meet the prerequisite within two years prior to the date of enrollment in CHEM 100.

Prerequisite: Courses at the level of PreAlgebra with a grade of "C" or higher or "Pass" or equivalent or appropriate placement based on the college's multiple measures process. This course is an introduction to the basic principles of inorganic and organic chemistry and biochemistry with their application to problems encountered in our everyday lives. The course includes the metric system, atomic structure, bonding, solutions, chemical reactions, hydrocarbons, functional groups, carbohydrates, lipids, and proteins. It is designed to give a general introduction to fundamental concepts and to prepare students for majors in nursing, dental hygiene, physician assistant, physical therapy assistant, liberal arts, and technical fields. (Not open to those with credit in more advanced courses).

Transfer Credit: CSU; UC

CHEM 101 3.0 UNITS Chemistry in Society

Class Hours: 3.0 Lecture
Total Contact Hours: 54 Lecture

From the chemistry of living life to running your car, chemistry is integral to our everyday lives. This course is an introduction to the basic principles of chemistry as they apply to our everyday lives and how science can solve real-world problems. You'll learn how chemistry is used to improve the world around us. You'll examine alternative fuels, the biochemistry of food, and the environment. The course includes the metric system, atoms, bonding, everyday chemical reactions, nuclear chemistry, inorganic chemistry and biochemistry. You will learn the process and value of science in our society. The course is designed to fulfill a GE physical science course, specifically chemistry, for the non-science major. This course is suitable for students who have little or no background in chemistry. This course is not recommended for science majors or students interested in allied health careers.

Transfer Credit: CSU;UC

CHEM 101L 1.0 UNITS Chemistry in Society Lab

Class Hours: 3.0 Laboratory
Total Contact Hours: 54 Laboratory

Prerequisite: CHEM 101 or equivalent with a grade of "C" or higher or "Pass" or concurrent enrollment.

A lab designed to accompany CHEM 101, Science in Society. This course provides practical experience to support foundational chemistry learning. Emphasizes using the scientific method, chemical measurements, atomic structure, gas laws, liquids, solids, solutions, acids and bases, modeling, and experimental design related to the topics in the Chemistry in Society (CHEM 101) course.

Transfer Credit: CSU; UC

CHEM 110 4.0 UNITS Elementary Chemistry

Class Hours: 3.0 Lecture / 3.0 Laboratory
Total Contact Hours: 54 Lecture / 54 Laboratory

Recommendation: Meet the prerequisite within four years prior to the date of enrollment in CHEM 110.

Prerequisite: Courses taught at the level of Intermediate Algebra with a grade of "C" or higher or "Pass" or equivalent or appropriate placement based on the college's multiple measures process. This introductory inorganic chemistry course emphasizes basic principles, formulas, equations, and chemical math problems. It is designed for students with little or no previous chemistry and prepares students for CHEM 111, General Chemistry.

Transfer Credit: CSU; UC

C-ID: CHEM 101

CHEM 111 5.0 UNITS General Chemistry

Class Hours: 3.0 Lecture / 6.0 Laboratory
Total Contact Hours: 54 Lecture / 108 Laboratory

Prerequisite: CHEM 110 or equivalent with a grade of "C" or higher or "Pass" and courses taught at the level of Intermediate Algebra with a grade of "C" or higher or "Pass" or equivalent or appropriate placement based on the college's multiple measures process.

Recommendation: Meet the prerequisite within two years prior to the date of enrollment in CHEM 100.

This course is designed for science majors. It includes stoichiometry; properties and changes of state for gases, liquids and solids; solutions; colloids; equilibria of gases, weak acids and bases, and slightly soluble compounds.

Transfer Credit: CSU; UC

C-ID: CHEM 110, CHEM 120S

CHEM 112 5.0 UNITS General Chemistry

Class Hours: 3.0 Lecture / 6.0 Laboratory
Total Contact Hours: 54 Lecture / 108 Laboratory

Prerequisite: CHEM 111 or equivalent with a grade of "C" or higher or "Pass."

Recommendation: It is strongly recommended that students take MATH 155 prior to taking CHEM 112.

This course is designed for science majors and is a continuation of CHEM 111. It includes oxidation-reduction; electrochemistry; modern atomic structure and bonding; molecular geometry; coordination chemistry; nuclear chemistry; thermodynamics; kinetics, and organic chemistry. The laboratory includes some qualitative analysis.

Transfer Credit: CSU; UC

C-ID: CHEM 120S

CHEM 211 **5.0 UNITS**

Organic Chemistry

Class Hours: 3.0 Lecture / 6.0 Laboratory

Total Contact Hours: 54 Lecture / 108 Laboratory

Prerequisite: CHEM 112 or equivalent with a grade of "C" or higher or "Pass."

Recommendation: It is strongly recommended that the preceding prerequisite be completed within four years prior to the date of enrollment in CHEM 211.

This course is the first part of a one-year Organic Chemistry course that includes topics on the properties and reactions of aliphatic and aromatic organic compounds. Emphasis is placed on reaction mechanisms, fundamental principles, and modern instrumental methods. The laboratory experiments will stress synthesis, techniques, and spectroscopic and qualitative analysis.

Transfer Credit: CSU; UC

C-ID: CHEM 160S

CHEM 212 **5.0 UNITS**

Organic Chemistry

Class Hours: 3.0 Lecture / 6.0 Laboratory

Total Contact Hours: 54 Lecture / 108 Laboratory

Prerequisite: CHEM 211 or equivalent with a grade of "C" or higher or "Pass."

Recommendation: It is strongly recommended that the preceding prerequisite be completed within four years prior to the date of enrollment in CHEM 212.

This course is the second part of a one-year Organic Chemistry course that includes topics on the properties and reactions of aliphatic and aromatic organic compounds. Emphasis is placed on reaction mechanisms, fundamental principles and modern instrumental methods. The laboratory experiments will stress synthesis, techniques, and spectroscopic and qualitative analysis.

Transfer Credit: CSU; UC

C-ID: CHEM 160S

CHEM 250L **1.0 UNITS**

Special Topics In Chemistry

Class Hours: 3.0 Laboratory

Total Contact Hours: 54 Laboratory

Prerequisite: CHEM 111 or equivalent with a grade of "C" or higher or "Pass."

This course is primarily for chemistry or related science majors. Individual research problems are explored using materials, equipment and techniques not available to larger classes.

Transfer Credit: CSU; UC TBD after admission