

# CHEMISTRY (CHM)

## CHM 1015 Introduction to Chemistry

**Credit Hours:** 3

**Prerequisites:** High school algebra 1 (if completed within the last three years) or high school algebra 1 and 2

This course is an introductory course for students with inadequate backgrounds in math to develop and build mathematical skills and learn concepts required for entry into more rigorous chemistry courses. Does not meet general education requirement.

## CHM 1025 College Chemistry

**Credit Hours:** 3

**Prerequisites:** MAT 1033 with a grade of "C" or higher

**Corequisites:** CHML 1025

**General Education Category:** Science Gen Ed

Meets General Education requirement. This course is an introduction to the elementary principles of modern chemistry. This course prepares students without high school chemistry, or with an inadequate background, for CHM 1045. Modern chemical theories are used to develop an understanding of fundamentals of inorganic chemistry and its applications. An emphasis is placed on quantitative relationships and using dimensional analysis to solve problems.

## CHM 1045 General Chemistry 1

**Credit Hours:** 3

**Prerequisites:** MAC 1105 with a grade of "C" or higher

**Corequisites:** CHML 1045

**General Education Category:** Natural Science CORE COURSE

Meets General Education requirement. An introduction to principles of chemistry to include a study of quantum structure, reaction and the properties of matter; bonding and molecular shape; properties of the phases of matter; numerical analysis and manipulation. This course is a state-designated core course.

## CHM 1045H Honors General Chemistry 1

**Credit Hours:** 3

**Prerequisites:** MAC 1105 with a grade of "C" or higher and admission to the EFSC Honors Program

**Corequisites:** CHML 1045H

**General Education Category:** Natural Science CORE COURSE

Meets General Education requirement. The course is the first part of a rigorous two-course sequence in general chemistry intended for science majors. The course is designed to provide a unique environment based on collaborative and active learning. Major areas of concentration include modern theories of atomic and molecular structure, quantitative chemistry, physical chemistry, and the behavior of gases. This course is a state-designated core course.

## CHM 1046 General Chemistry 2

**Credit Hours:** 3

**Prerequisites:** CHM 1045 with a grade of "C" or higher

**Corequisites:** CHML 1046

**General Education Category:** Science Gen Ed

Meets General Education requirement. An introduction to principles of chemistry to include a study of equilibrium, reaction rate, and electrochemistry; nuclear chemistry; basic organic chemistry; and colligative properties of solutions.

## CHM 1046H Honors General Chemistry 2

**Credit Hours:** 3

**Prerequisites:** CHM 1045 or CHM 1045H and CHML 1045 or CHML 1045H - both courses with a grade of "C" or higher and admission to the EFSC Honors Program

**General Education Category:** Science Gen Ed

Meets General Education requirement. A continuation of General Chemistry 1 to include a study of equilibrium, reaction rate, electrochemistry, nuclear chemistry, basic organic chemistry and colligative properties of solutions. Students will also conduct an analysis on energy sources and resources. This course is designed to provide a unique environment based on collaborative and active learning.

## CHM 2210 Organic Chemistry 1

**Credit Hours:** 3

**Prerequisites:** CHM 1046 and CHML 1046 - both courses with a grade of "C" or higher

**Corequisites:** CHML 2210

**General Education Category:** Science Gen Ed

Meets General Education requirement. This course is the first part of a two-semester sequence in organic chemistry that studies the organization of carbon compounds and the unifying principles of their chemistry. The course covers the study of hydrocarbon compounds and their derivatives. The topics include nomenclature, synthesis, utilization of products, reaction mechanisms and stereo-chemical considerations of products.

## CHM 2211 Organic Chemistry 2

**Credit Hours:** 3

**Prerequisites:** CHM 2210 and CHML 2210 - both courses with a grade of "C" or higher

**Corequisites:** CHML 2211

**General Education Category:** Science Gen Ed

Meets General Education requirement. This course is the second part of a two-semester sequence in organic chemistry that studies the organization of carbon compounds and the unifying principles of their chemistry. The course covers the study of alcohols, ethers, carboxylic acids, and other organic compounds. The topics include structure, nomenclature, synthesis, utilization of products, reaction mechanisms, and stereo-chemical considerations of products as well as structure elucidation via spectrometric techniques.

## CHM 2941 Chemistry Internship

**Credit Hours:** 1-3

**Prerequisites:** Complete two courses in Chemistry or consent of instructor

This is an internship and work experience in a science field or laboratory to develop the skills needed for employment which include setting, achieving, and evaluating goals for hands-on learning experiences in the sciences. This course may be taken for maximum credit of 6.

## CHM 2948 Service-Learning Field Studies 1

**Credit Hours:** 1

This course gives students opportunity to understand the relationship of theory to practice through participation in a service-learning experience. Students are required to complete 20 hours of volunteer work, a service-learning contract, and an oral and written reflection of the experience.