

# CHEMISTRY (CHEM)

## CHEM-100 Introduction to Chemistry 4 Units (LBE 48-54, LEC 48-54)

This course is a survey of basic chemistry topics. The topics covered are: metric system and numbers, chemical view of matter, periodic table of elements, atomic theory, chemical bonds, chemical equations, stoichiometry, and solutions. This course is intended as preparation for major's chemistry, allied health, and general education.

**Prerequisite:** Appropriate Multiple Measures placement or completion of Intermediate Algebra meets the prerequisite for this course.

**Transfers to both UC/CSU**

**C-ID:** CHEM 101

**IGETC Area(s):** 5A, 5C

**CSU Area(s):** B1, B3

**AA/AS General Education:** AA/AS A

## CHEM-101 General Chemistry I 5 Units (LBE 96-108, LEC 48-54)

This course covers principles of chemistry with special emphasis on atomic structure, stoichiometry, chemistry of aqueous solutions, balancing reactions, thermochemistry, periodic relationships among the elements, chemical bonding, geometry of molecules, hybridization and molecular orbital theory.

**Prerequisite:** MATH-105 (with a grade of C or better) or completion with a C or better of MATH-110, MATH-135, MATH-211, MATH-213, MATH-215, or MATH-218 meets the prerequisite or placement into MATH-211 or higher meets the prerequisite, AND CHEM-100 (with a grade of C or better) or one year of high school chemistry.

**Recommended Preparation:** Earn a mastery score of at least 95% on the ALEKS Preparatory Chemistry Course.

**Transfers to both UC/CSU**

**C-ID:** CHEM 110

**IGETC Area(s):** 5A, 5C

**CSU Area(s):** B1, B3

**AA/AS General Education:** AA/AS A

## CHEM-101H Honors General Chemistry I 5 Units (LBE 96-108, LEC 48-54)

This course covers principles of chemistry with special emphasis on atomic structure, stoichiometry, chemistry of aqueous solutions, balancing reactions, thermochemistry, periodic relationships among the elements, chemical bonding, geometry of molecules, hybridization and molecular orbital theory.

**Prerequisite:** MATH-105 (with a grade of C or better) or completion with a C or better of MATH-110, MATH-135, MATH-211, MATH-213, MATH-215, or MATH-218 meets the prerequisite or placement into MATH-211 or higher meets the prerequisite, AND CHEM-100 (with a grade of C or better) or one year of high school chemistry, Acceptance into the Honors Enrichment Program.

**Recommended Preparation:** Earn a mastery score of at least 95% on the ALEKS Preparatory Chemistry Course.

**Transfers to both UC/CSU**

**C-ID:** CHEM 110

**IGETC Area(s):** 5A, 5C

**CSU Area(s):** B1, B3

**AA/AS General Education:** AA/AS A

## CHEM-102 General Chemistry II 5 Units (LBE 96-108, LEC 48-54)

This course is a continuation of Chemistry 101. Special emphasis is given to chemical kinetics, equilibrium, thermodynamics, acid-base equilibria, electrochemistry, common reactions of metals and non-metals with an introduction to qualitative analysis.

**Prerequisite:** CHEM-101 (with a grade of C or better).

**Recommended Preparation:** Students who have taken first-semester general chemistry before Fall 2020 at MSJC should review the following topics: intermolecular forces, phase diagrams, and solution chemistry or equivalent.

**Transfers to both UC/CSU**

**IGETC Area(s):** 5A, 5C

**CSU Area(s):** B1, B3

**AA/AS General Education:** AA/AS A

## CHEM-107 Chemistry of Life 5 Units (LBE 48-54, LEC 64-72)

This course covers the basic principles of atoms, molecules, physical states, energy, solutions, acid/bases, chemical equations, structure and properties of major classes of organic molecules, biochemical molecules, and their functions in biological and abiotic systems.

**Transfers to both UC/CSU**

**IGETC Area(s):** 5A, 5C

**CSU Area(s):** B1, B3

**AA/AS General Education:** AA/AS A

## CHEM-112 Organic Chemistry I 5 Units (LBE 96-108, LEC 48-54)

This course is the first of a two-semester sequence in organic chemistry. The topics covered include molecular properties, structure and bonding, stereochemistry, reactions and synthesis of alkane, alkenes, alkynes and alkyl halides, NMR and IR spectroscopy, and the chemistry of benzene and aromatic compounds.

**Prerequisite:** CHEM-102 (with a grade of C or better).

**Transfers to both UC/CSU**

**C-ID:** CHEM 150

**C-ID:** CHEM 160S

**IGETC Area(s):** 5A, 5C

**CSU Area(s):** B1, B3

**AA/AS General Education:** AA/AS A

## CHEM-113 Organic Chemistry II 5 Units (LBE 96-108, LEC 48-54)

This course in organic chemistry includes a systematic study of the nomenclature, properties, preparation, reactions and uses in synthesis of alcohols, ethers, aldehydes, ketones, carboxylic acids, acid derivatives and amines, and a study of biological molecules.

**Prerequisite:** CHEM-112 (with a grade of C or better).

**Transfers to both UC/CSU**

**C-ID:** CHEM 160S

**IGETC Area(s):** 5A, 5C

**CSU Area(s):** B1, B3

**AA/AS General Education:** AA/AS A

**CHEM-113H Honors Organic Chemistry II**  
**5 Units (LBE 96-108, LEC 48-54)**

This course in organic chemistry includes a systematic study of the nomenclature, properties, preparation, reactions and uses in synthesis of alcohols, ethers, aldehydes, ketones, carboxylic acids, acid derivatives and amines, and a study of biological molecules.

**Prerequisite:** Acceptance into the Honors Enrichment Program., CHEM-112 (with a grade of C or better).

**Transfers to both UC/CSU**

**IGETC Area(s):** 5A, 5C

**CSU Area(s):** B1, B3

**AA/AS General Education:** AA/AS A

**CHEM-299 Special Projects: Chemistry**  
**1-3 Unit (IS 16-54)**

Students with previous course work in the program may do special projects that involve research and special study. The actual nature of the project must be determined in consultation with the supervising instructor.

**Prerequisite:** Two Chemistry classes must be completed prior to enrollment; a contract must be completed with the instructor prior to enrollment.

**Transfers to CSU only**