# CHEMISTRY (CHEM)

**CHEM A020** **1 Unit (18 lecture hours)**
**Problem Solving in Organic Chemistry 1**
**Co-requisite(s):** CHEM A220.

**Grading Mode:** Pass/No Pass
This course covers problem-solving skills and strategies that enhance success in Chemistry A220. Topics include problems in organic chemical structure, nomenclature, reactions and reaction mechanisms.

**CHEM A025** **1 Unit (18 lecture hours)**
**Problem Solving in Organic Chemistry 2**
**Co-requisite(s):** CHEM A225.

**Grading Mode:** Pass/No Pass
This course covers problem-solving skills and strategies that enhance success in Chemistry A225. Topics include problems in organic chemical structure, nomenclature, reactions and reaction mechanisms.

**CHEM A100** **3 Units (54 lecture hours)**
**Principles of Chemistry**
**Grading Mode:** Standard Letter, Pass/No Pass
**Transfer Credit:** CSU; UC.

Non-mathematical chemistry for students not majoring in science. Emphasis on relationship of chemistry to the human body with particular attention to drugs of all kinds, food, metabolism, cancer and environmental contaminants. Includes concepts of structure of matter, bonding, acid-base chemistry, organic chemistry and thermodynamics. May be taken for grades or on a pass-no pass basis.

**CHEM A110** **5 Units (81 lecture hours; 45 lab hours)**
**Introduction to Chemistry**
**Prerequisite(s):** MATH A010 or higher.

**Co-requisite(s):** CHEM A010N.

**Grading Mode:** Standard Letter, Pass/No Pass
**Transfer Credit:** CSU; UC.

Principles of inorganic, organic, and bio-chemistry. Not for those who will take CHEM A180 or CHEM A130. May be taken for grades or on a pass-no pass basis. **C-ID:** CHEM 102.

**CHEM A130** **4 Units (63 lecture hours; 45 lab hours)**
**Preparation for General Chemistry**
**Prerequisite(s):** MATH A030 or higher (or appropriate placement).

**Co-requisite(s):** CHEM A030N.

**Advisory:** Eligibility for ESL A060 or ENGL A099.

**Grading Mode:** Standard Letter, Pass/No Pass
**Transfer Credit:** CSU; UC.

Introduction to the principles, calculations, and laboratory techniques of chemistry for students planning to take CHEM A180. May be taken for grades or on a pass-no pass basis.

**CHEM A180** **5 Units (72 lecture hours; 90 lab hours)**
**General Chemistry A**
**Prerequisite(s):** MATH A030 or MATH A045, and CHEM A130.

**Co-requisite(s):** CHEM A080N.

**Grading Mode:** Standard Letter
**Transfer Credit:** CSU; UC.

This course studies gases, solutions, reactions, bonding theories, acid-base, and redox theory. CID CHEM 110.

**CHEM A185** **5 Units (72 lecture hours; 90 lab hours)**
**General Chemistry B**
**Prerequisite(s):** CHEM A180.

**Co-requisite(s):** CHEM A085N.

**Grading Mode:** Standard Letter
**Transfer Credit:** CSU; UC.

Study of non-ideal solutions, chemical equilibria, thermodynamics, kinetics and nuclear chemistry. **C-ID:** CHEM 120S as CHEM A180 and CHEM A185.

**CHEM A220** **3 Units (54 lecture hours)**
**Organic Chemistry A**
**Prerequisite(s):** CHEM A185.

**Grading Mode:** Standard Letter
**Transfer Credit:** CSU; UC.

A study of organic compounds and their reactions from the standpoint of structure, mechanisms and kinetics. Introduction to spectroscopic methods of identification. **C-ID:** CHEM 150 when CHEM A220L is also completed.

**CHEM A220L** **2 Units (18 lecture hours; 90 lab hours)**
**Organic Chemistry A Lab**
**Prerequisite(s):** CHEM A185.

**Grading Mode:** Standard Letter
**Transfer Credit:** CSU; UC.

Theory and techniques of separation, purification, synthesis, and analysis of organic compounds including instrumental methods of chromatography and spectroscopy.

**CHEM A225** **3 Units (54 lecture hours)**
**Organic Chemistry B**
**Prerequisite(s):** CHEM A220.

**Grading Mode:** Standard Letter
**Transfer Credit:** CSU; UC.

Further study of the structures, reactions, mechanisms and kinetics of organic compounds. Introduction to biologically important compounds and natural products.

**CHEM A225L** **2 Units (18 lecture hours; 90 lab hours)**
**Organic Chemistry B Laboratory**
**Prerequisite(s):** CHEM A220 and CHEM A220L.

**Grading Mode:** Standard Letter
**Transfer Credit:** CSU; UC.

Further applications of laboratory theory and techniques in the synthesis and analysis of organic compounds including instrumental methods of chromatography.