

## CHEMISTRY (CHEM)

### 012 STRATEGIES FOR SUCCESS IN CHEM 102 INTRODUCTION TO GENERAL, ORGANIC AND BIOLOGICAL CHEMISTRY 1 UNIT

Prerequisite: Grade of "Pass" in MATH 060 or MATH 090 or MATH 096 or equivalent  
Corequisite: Concurrent enrollment in CHEM 102  
3 hours laboratory

The purpose of this course is to review and reinforce the skills and knowledge necessary for success in CHEM 102 (Introduction to General, Organic & Biological Chemistry). Students will strengthen their abilities related to critical thinking strategies, time management skills, coupled with unique features of effective reading strategies in science, technical writing skills and mastery of basic chemistry skills critical to CHEM 102. **Pass/No Pass only. Non-degree applicable.**

### 020 STRATEGIES FOR SUCCESS IN CHEM 120 1 UNIT

Corequisite: Concurrent enrollment in CHEM 120  
3 hours laboratory

The purpose of this course is to review and reinforce the skills and knowledge necessary for success in CHEM 120 (Preparation for General Chemistry). Students will strengthen their abilities related to critical thinking strategies, time management skills, coupled with unique features of effective reading strategies in science, technical writing skills and mastery of basic chemistry skills critical to CHEM 120. **Pass/No Pass only. Non-degree applicable.**

### 102 INTRODUCTION TO GENERAL, ORGANIC AND BIOLOGICAL CHEMISTRY 5 UNITS

Prerequisite: Grade of "Pass" in MATH 060 or MATH 090 or MATH 096 or equivalent  
4 hours lecture, 3 hours laboratory

A one-semester course covering the basic principles of general, organic and biochemistry as needed to understand the biochemistry, physiology and pharmacology of the human body. Intended for students planning to transfer to a California State University nursing program. *Students with a grade of "C" or better in CHEM 115, 116 are not eligible for this class.*

*AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit*

### 105 CHEMISTRY AND CRIME 3 UNITS

3 hours lecture

Elementary principles of chemistry and their application to the field of forensic chemistry. Students will learn basic chemical principles and apply them to the chemical analysis of evidence.

*AA/AS GE, CSU, CSU GE*

### 113 FORENSIC CHEMISTRY 4 UNITS

Prerequisite: Grade of "Pass" in MATH 090 or equivalent

3 hours lecture, 3 hours laboratory

Elementary principles of chemistry with application to the field of forensic science. Students will learn basic chemical terminology and problem-solving techniques with a forensic science application. Chemical techniques for analyzing evidence will be studied in lecture and practiced in lab. *Students will not receive credit toward graduation for more than one of the following courses: CHEM 113, 115, 120.*

*AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit*

### 115 FUNDAMENTALS OF CHEMISTRY 4 UNITS

#### C-ID CHEM 101

Prerequisite: Grade of "Pass" in MATH 090 or equivalent

3 hours lecture, 3 hours laboratory

Elementary principles of inorganic and general chemistry with a brief introduction to organic and biochemistry. Previous chemistry background is not required. Recommended for students who need only a one-semester general chemistry course and for students entering paramedical and allied health fields. *Students will not receive credit toward graduation for more than one of the following courses: CHEM 113, 115, 120.*

*AA/AS GE, CSU, CSU GE, IGETC, UC credit limit*

### 116 INTRODUCTORY ORGANIC AND BIOCHEMISTRY 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in CHEM 115 or equivalent

3 hours lecture, 3 hours laboratory

Study of carbon compounds with an emphasis on their structure, properties and reactivity. Introduction to the structure of the major classes of biomolecules—carbohydrates, lipids and proteins—and their relationship to the major classes of organic compounds.

*AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit*

### 120 PREPARATION FOR GENERAL CHEMISTRY 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 110 or equivalent

3 hours lecture, 3 hours laboratory

Elementary principles of chemistry approached from a problem-solving perspective necessary to succeed in CHEM 141. Intensive study in the areas of problem solving, stoichiometry, chemical nomenclature, basic atomic theory and bonding, solutions, acid-base chemistry, redox reactions and gas laws. The laboratory will be an introduction to quantitative techniques, descriptive chemistry, gas laws, error analysis and data treatment. *Students will not receive credit toward graduation for more than one of the following courses: CHEM 113, 115, 120.*

*AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit*

### 141 GENERAL CHEMISTRY I 5 UNITS

#### C-ID CHEM 110, 120S (with CHEM 142)

Prerequisite: "C" grade or higher or "Pass" in CHEM 120 or equivalent or the CHEM 141 assessment and "C" grade or higher or "Pass" in MATH 110 or equivalent

3 hours lecture, 6 hours laboratory

Basic principles and concepts of chemistry with an emphasis in the areas of stoichiometry, thermochemistry, atomic structure, chemical bonding and gas laws. The laboratory is an introduction to quantitative analysis and the principles of atomic and molecular structures.

*AA/AS GE, CSU, CSU GE, IGETC, UC credit limit*

### 142 GENERAL CHEMISTRY II 5 UNITS

#### C-ID CHEM 120S (with CHEM 141)

Prerequisite: "C" grade or higher or "Pass" in CHEM 141 or equivalent

3 hours lecture, 6 hours laboratory

Basic principles and calculations of chemistry with emphasis in the areas of chemical and acid-base equilibrium, thermodynamics, descriptive chemistry of the periodic table, intermolecular forces, properties of liquids, solids and solutions, kinetics, electrochemistry, and coordination compounds. The laboratory is a continuation of CHEM 141 with the quantitative analysis of matter and also includes qualitative analysis.

*CSU, CSU GE, IGETC, UC*

### 231 ORGANIC CHEMISTRY I 5 UNITS

#### C-ID CHEM 150, CHEM 160 (with CHEM 232)

Prerequisite: "C" grade or higher or "Pass" in CHEM 142 or equivalent

3 hours lecture, 6 hours laboratory

First of a two semester organic chemistry sequence. Includes nomenclature of organic compounds, stereochemistry, reaction mechanisms, and the study of representative reactions for certain classes of organic compounds. The relationship of structure to properties, reactivity, and mechanism or reaction will be emphasized. This course is intended for biology, chemistry and pre-medical majors needing either one or two semesters of organic chemistry.

*CSU, CSU GE, IGETC, UC*

### 232 ORGANIC CHEMISTRY II 5 UNITS

#### C-ID CHEM 160 (with CHEM 231)

Prerequisite: "C" grade or higher or "Pass" in CHEM 231 or equivalent

3 hours lecture, 6 hours laboratory

Second of a two-semester sequence. The topics covered will include: structure and reactivity of carboxylic acids and their derivatives, amines and other nitrogen functional groups, aromatic compounds, heterocyclic compounds, polyfunctional compounds, conjugation and aromaticity, and multistep organic synthesis.

*AA/AS GE, CSU, CSU GE, IGETC, UC*