CHEMISTRY

Division: Science/Engineering/Mathematics

Division Dean

Patricia Menchaca

Faculty

Robin De Roo
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Allison Gotoh
Lenore Landis
Phyllis Mays-Larson
Craig Tomooka

Counselor

Ernesto Heredia

Chemistry Transfer Program

Students should consult a counselor or www.assist.org (http://www.assist.org) for lower division major requirements for most California public universities. (See the Standard Definitions section of the catalog for a description of ASSIST.) Students transferring to an independent college/university should consult the catalog of the individual school and a counselor for lower division major requirements.

- Chemistry Associate in Science Degree for Transfer (AS-T) (https://catalog.nocccd.edu/cypress-college/degrees-certificates/chemistry/associate-science-degree-chemistry-transfer-degree-as-t/)
- Chemistry Associate in Science Degree for UC Transfer (https://catalog.nocccd.edu/cypress-college/degrees-certificates/chemistry/chemistry-associate-in-science-degree-for-uc-transfer/)

CHEM 060 C Review of Chemistry Foundation **2 Units**
Advisory: Intermediate Algebra or MATH 141 C or MATH 141PC, or equivalent and CHEM 101 C or CHEM 107 C.
Term hours: 36 lecture. This course reviews many of the most important requisite chemistry skills for General Chemistry courses (CHEM 111A C and CHEM 111B C). Designed to support students who require additional practice in mastering these skills after completing prerequisite mathematics and chemistry courses, but prior to enrolling in the first semester of the General Chemistry sequence (CHEM 111A C). Also recommended for students who has completed prerequisite more than two semesters ago to refresh the skills. Non-Degree Credit. Pass/No Pass only.

CHEM 100 C Chemistry for Daily Life **4 Units**
Prerequisite(s): Successful completion of Elementary Algebra or MATH 115 C or MATH 115PC or MATH 120 C or MATH 120PC or equivalent.
Term hours: 54 lecture and 54 laboratory. The course is designed for the non-science major seeking a laboratory science. The course will introduce the fundamental concepts of chemistry and their application in daily life. The laboratory section will provide hands-on experience with many of the lecture topics. Pass/No Pass/Letter Grade Option. (UC Credit Limitation/CSU, AA GE, CSU GE, IGETC)

CHEM 101 C Chem for Health Sci Majors I **4.5 Units**
Prerequisite(s): Successful completion of Elementary Algebra or MATH 115 C or MATH 115PC or MATH 120 C or MATH 120PC or equivalent.
Term hours: 72 lecture and 36 laboratory. This course is the first semester of a two semester sequence (CHEM 101 C and CHEM 201 C). This course covers the basic principles of atomic structure, chemical bonding, the mole concept, states of matter, solutions, energy, and organic compounds. This course is designed for students majoring in health science. (UC Credit Limitation/CSU, AA GE, CSU GE, IGETC, C-ID: CHEM 101)

CHEM 103 C Chemistry and Society **3 Units**
Term hours: 54 lecture. This course introduces students to basic concepts of chemistry and requires analyses of the socio-cultural contexts within which chemistry plays a central role. This is a general education course in chemistry and is not recommended for science majors. Pass/No Pass/Letter Grade Option. (UC Credit Limitation/CSU, AA GE, CSU GE, IGETC).

CHEM 104 C Physical Science for Teachers **4 Units**
Prerequisite(s): Successful completion of Elementary Algebra or MATH 110 C or MATH 110PC or equivalent.
Term hours: 54 lecture and 54 laboratory. This activity-based course introduces students to basic principles of physics and chemistry with emphasis on their practical importance and application in the real world. Some of the topics include: matter, physical and chemical properties, energy, motion, light, atomic structure, bonding, solutions and chemical reactions. This course is intended for students who want to become elementary school teachers. Duplicate credit not granted for PHSC 104 C. (UC/CSU, AA GE, CSU GE, IGETC, C-ID: CHEM 140 , and PHYS 140)

CHEM 107 C Preparation for General Chem **5 Units**
Prerequisite(s): Successful completion of Intermediate Algebra or MATH 141 C or MATH 141 PC or equivalent.
Term hours: 72 lecture and 54 laboratory. This course provides a general introduction to the basic concepts, principles and laws of modern chemistry. Topics include a study of atomic theory, molecular structure, chemical reactivity, and the properties of the various phases of matter. Laboratory experiments include both qualitative and quantitative analysis, with an emphasis on proper laboratory techniques. This course applies to the physical science requirement for general education and is not acceptable for credit for students majoring in physical science. CHEM 107 C is a recommended preparatory course for students planning to take CHEM 111AC AND CHEM 111BC. No credit if taken after CHEM 111AC. Pass/No Pass/Letter Grade Option (UC Credit Limitation/CSU, AA GE, CSU GE, IGETC)

CHEM 111AC General Chemistry I **5 Units**
Prerequisite(s): CHEM 107 C with a grade of C or better or a passing score on the Chemistry Proficiency Test, and successful completion of Intermediate Algebra or MATH 141 C or MATH 141PC or equivalent with a grade of C or better.
Term hours: 54 lecture and 108 laboratory. Topics covered include the general principles of chemistry with associated laboratory analysis. This includes atomic structure, bonding, the mole concept, properties of solutions, gas laws, and thermochemistry. (UC/CSU, AA GE, CSU GE, IGETC, C-ID: CHEM 110 and CHEM 120S=CHEM 111AC+CHEM 111BC).

CHEM 111BC General Chemistry II **5 Units**
Prerequisite(s): CHEM 111AC with a grade of C or better.
Term hours: 54 lecture and 108 laboratory. In this course, topics covered include the general principles of chemistry with associated laboratory analysis. This includes kinetics, equilibrium, thermodynamics, electrochemistry and nuclear chemistry. (UC Credit Limitation/CSU, AA GE, CSU GE, IGETC, C-ID: CHEM 120 S = CHEM 111AC + CHEM 111BC)

CHEM 112 C General Chemistry II for Engineers **4 Units**
Prerequisite(s): CHEM 111AC with a grade of C or better
Term hours: 72 lecture. In this course, topics covered include the general principles of chemistry. This includes kinetics, equilibrium, thermodynamics, electrochemistry and nuclear chemistry. (UC Credit Limitation/CSU)

CHEM 201 C Chemistry for Health Science Majors II **4.5 Units**
Prerequisite(s): CHEM 101 C with a grade of C or better.
Term hours: 54 lecture and 54 laboratory. This course is the second semester of a two-semester sequence (CHEM 101 C and CHEM 201 C). Topics covered include the structures, nomenclature, reactions, and applications of organic and biochemical compounds, as well as cell structure, metabolism, biotechnology, vitamins and enzymes. This course is designed for students majoring in health science. (CSU/UC/AA GE, CSU GE, IGETC)

CHEM 211AC Organic Chemistry I **5 Units**
Prerequisite(s): CHEM 111BC with a grade of C or better.
Term hours: 54 lecture and 108 laboratory. This course is the first part of a two semester organic chemistry lecture and laboratory sequence. This course covers the study of functionalized compounds, stereochemistry, substitution and elimination reactions, alkenes, alkynes, and spectroscopic methods. Laboratory work includes the synthesis, isolation, and characterization of organic compounds by using modern techniques and instrumentation. This course is designed for students who plan to major in chemistry, biochemistry, biology, and pre-medical/pre-pharmacy/pre-dental programs. (CSU/UC, C-ID: CHEM 160S=CHEM211BC + CHEM 211AC)

CHEM 211BC Organic Chemistry II **5 Units**
Prerequisite(s): CHEM 211AC with a grade of C or better.
Term hours: 54 lecture and 108 laboratory. This course is the second part of a two semester organic chemistry lecture and laboratory sequence. The course includes the study of radicals, aromatic compounds, carbonyl-containing compounds, amines, biologically important compounds, and strategy in organic synthesis. Laboratory work includes modern techniques required to synthesize organic compounds, and the isolation and analysis of these compounds. This course is designed primarily for students who plan to major in chemistry, biochemistry, biology, and pre-medical/pre-pharmacy/pre-dental programs. (UC/CSU, C-ID: CHEM 160S=CHEM211BC + CHEM 211AC)

CHEM 298 C Chemistry Seminar **0.5-12 Units**
Prerequisite(s): May be required.
Corequisite(s): May be required.
Advisory: May be required.
Term hours: 0-216 lecture and 0-864 laboratory depending on units attempted. This course seminar is designed to help students conceptualize and intensify knowledge in a variety of chemical topics. They may include lecture, discussions, and other activities at the discretion of the instructor. Actual seminar topics will be listed in the class schedule for a particular semester. Consult the class schedule to verify unit credit and prerequisites for a particular semester. Pass/No Pass or Pass/No Pass/Letter Grade Option or Standard Letter Grade. Fees may be required-Payable at Registration. (UC Credit Limitation/CSU)

At Cypress College, there are Department Program Student Learning Outcomes and Degree & Certificate Program Student Learning Outcomes.

Department Program Student Learning Outcomes:

The courses taught by this department contribute to the following ISLO/PSLOs: A-Breadth of Knowledge, Competencies, and Skills, B-Communication Skills, C-Critical Thinking, Problem Solving, and Information Competency Skills, and D-Personal, Academic, and Professional Development; specifically, the following ISLO/PSLO subcategories: A1-Science, Technology, Engineering, and Mathematics, B1-Reading, B2-Writing, B3-Communicating, C1-Analysis, C2-Computation, C4-Problem Solving, C5-Technology, and D1-Personal Responsibility.

Degree & Certificate Program Student Learning Outcomes:

The program student learning outcomes for each award can be found on the specific degree or certificate page.