CHEMISTRY

Career Opportunities

B.S. Level
(Most careers require bachelors or graduate degree)

Chemist	Chemical Analyst
Laboratory Technician	Research Assistant
Research Scientist	Biochemist

Faculty

Full-Time

Luanne Crockett	Yong C. Ma

Part-Time

Terry Boan	Jay Crane
Joe Escobar	F.S. Skelton

Chemistry Courses

CHEM R100—Chemistry and Environment **4 units**
4 hours lecture weekly
A college-level one-semester course in chemistry for non-science majors. This is an introductory course into fundamental chemical principles and the relationship these principles have on society and the environment. The impact of chemistry on technology, society, and the individual will be discussed. Topics include: scientific method, atomic and kinetic-molecular theories, states of matter, measurements, electronic structure, bonding periodicity, nomenclature, chemical reactions, energy production, thermodynamics, ionic equilibrium, pH, kinetics, as well as structures, classifications, and reactions of organic/bio-organic materials. Field trips may be required. (2)
Transfer credit: UC, CSU

CHEM R100L—Chemistry and Environment Lab **1 unit**
Prerequisites: CHEM R100 or concurrent enrollment.
3 hours lab weekly.
A laboratory course designed to complement CHEM R100. Basic laboratory and analytical problem solving skills are attained through both experimentation and demonstration. Not designed for science and engineering majors. Field trips may be required. (2)
Transfer credit: UC, CSU

CHEM R110—Elementary Chemistry **5 units**
Prerequisites: MATH R011.
4 hours lecture, 3 hours lab weekly
Introductory course in chemistry stressing basic principles of atomic and molecular structure, periodic table and states of matter, as well as quantitative techniques involved in elementary chemical calculations; some discussion of nuclear, organic, and bio-chemistry. Introduction to lab techniques with experiments illustrating principles covered in lectures. (2)
Transfer credit: UC, CSU

CHEM R112—Elementary Organic and Biological Chemistry **5 units**
Prerequisites: CHEM R110 or equivalent.
4 hours lecture, 3 hours lab weekly
A continuation of CHEM R110 to include equilibrium, oxidation-reduction, simple electrochemistry, radioactivity. Major emphasis will be on organic chemistry. Organic emphasis to include naming, structure and bonding, classification by functional groups and reactions, polymerization, optical isomerism, physical properties based on polarity. Biochemistry may include carbohydrates, proteins and amino acids, fats, enzymes, DNA and RNA, cell biochemistry. (2)
Transfer credit: UC, CSU

CHEM R120—General Chemistry I **5 units**
Prerequisites: CHEM R110 or high school chemistry, and MATH R014.
3 hours lecture, 6 hours lab weekly
Fundamental principles and theories of chemistry with special emphasis on calculations of solution chemistry, stoichiometry, chemical equilibrium and oxidation-reduction; includes discussion of quantum mechanical model of the atom, kinetic-molecular theory, and periodic table. Lab designed to develop quantitative relationships through experiments, and to introduce inorganic preparative procedures and computer analysis of data. (2)
Transfer credit: UC, CSU (CAN: CHEM 2)

CHEM R122—General Chemistry II **5 units**
Prerequisites: CHEM R120.
3 hours lecture, 6 hours lab weekly
Continuation of CHEM R120 with emphasis on solution equilibria, kinetics, electrochemistry, radiochemistry, transition metal chemistry, and descriptive chemistry of the elements. Lab includes qualitative analysis, thermochemistry, and kinetic studies, and further develops inorganic preparative techniques. Computers are utilized for data acquisition and reduction. (2)
Transfer credit: UC, CSU (CAN: CHEM 4)

CHEM R130—Organic Chemistry I **5 units**
Prerequisites: CHEM R120 and CHEM R122.
3 hours lecture, 6 hours lab weekly
Introduction to the fundamentals of organic chemistry designed for chemistry majors, pre-professionals, and students who desire a broad background. Emphasis upon practical application of modern principles to structure, reactivity, methods of synthesis, and physical properties of organic compounds. Lab will give concrete examples of lecture materials. (2)
Transfer credit: UC, CSU

CHEM R132—Organic Chemistry II **5 units**
Prerequisites: CHEM R130.
3 hours lecture, 6 hours lab weekly
CHEM R132 is a continuation of CHEM R130 with introduction to macro-molecules, polymers, sugar chemistry, and biochemistry. Course will reinforce and broaden that learned in CHEM R130. Lab will give concrete examples of lecture materials. (2)
Transfer credit: UC, CSU