

Chemistry (CHEM)

Contact the Chemistry Department for further information.
(760) 744-1150, ext. 2505
Office: NS-355B

Associate in Arts Degrees -

AA Degree requirements are listed in Section 6 (green pages).
• Chemistry

Certificates of Achievement -

Certificate of Achievement requirements are listed in Section 6 (green pages).
• Chemistry

PROGRAM OF STUDY

Chemistry

Provides the background to begin upper division course work and prepares the student for entry level jobs that require a knowledge of chemistry. The student is advised to check with the institution to which he/she wishes to transfer for additional courses, which may be required.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units
CHEM 110 General Chemistry	3
CHEM 110L General Chemistry Laboratory	2
CHEM 115 General Chemistry	3
CHEM 115L General Chemistry Laboratory	2
CHEM 210 Analytical Chemistry	5
CHEM 220 Organic Chemistry	5
CHEM 221 Organic Chemistry	5
TOTAL UNITS	25

COURSE OFFERINGS

Courses numbered under 50 are non-degree courses.
Courses numbered under 100 are not intended for transfer credit.

CHEM 10 Chemistry Calculations (1)

1 hour lecture

Note: Pass/No Pass grading only
Non-degree Applicable

The basic calculation skills needed for successful performance in CHEM 100, 110, and 115. Areas such as significant figures, exponential numbers, and basic chemical problems are discussed. Emphasizes student practice of chemistry problems.

CHEM 100 Fundamentals of Chemistry (4)

3 hours lecture - 3 hours laboratory

Prerequisite: One year of high school algebra

Transfer acceptability: CSU; UC – no credit if taken after CHEM 110

Introductory study of the principles and laboratory techniques of general chemistry. Laboratory must be taken concurrently with lecture.

CHEM 104 General Organic and Biochemistry (5)

3 hours lecture - 6 hours laboratory

Transfer acceptability: CSU; UC

This course will cover the basic principles of general chemistry, organic chemistry and biochemistry as needed to understand the biochemistry, physiology, and pharmacology of the human body. This course is intended mainly for students pursuing health professions.

CHEM 105 Fundamentals of Organic Chemistry (4)

3 hours lecture - 3 hours laboratory

Prerequisite: A minimum grade of 'C' in CHEM 100, or CHEM 110 and 110L

Transfer acceptability: CSU; UC

An introduction to the study of organic chemistry with an emphasis on classification, reactions, and application to allied fields. Laboratory includes techniques of isolation, identification, and synthesis of organic compounds.

CHEM 110 General Chemistry (3)

3 hours lecture

Prerequisite: A minimum grade of 'C' in CHEM 100 or high school chemistry with laboratory, and two years of high school algebra or MATH 60

Corequisite: CHEM 110L

Transfer acceptability: CSU; UC

Principles of, and calculations in, areas such as atomic structure, solutions, chemical bonding, chemical formulas and equations, gases, energy transformations accompanying chemical changes, and descriptive chemistry.

CHEM 110L General Chemistry Laboratory (2)

6 hours laboratory

Prerequisite: A minimum grade of 'C' in CHEM 110, or concurrent enrollment in CHEM 110

Transfer acceptability: CSU; UC

Qualitative and quantitative investigations designed to accompany CHEM 110.

CHEM 115 General Chemistry (3)

3 hours lecture

Prerequisite: A minimum grade of 'C' in CHEM 110 and 110L

Recommended preparation: Concurrent enrollment in CHEM 115L

Transfer acceptability: CSU; UC

Principles of, and calculations in, areas such as reaction spontaneity, energy changes accompanying chemical reactions, rates of reactions, chemical equilibrium, acids and bases, precipitation reactions, complex ions, oxidation and reduction, nuclear reactions, and descriptive chemistry.

CHEM 115L General Chemistry Laboratory (2)

6 hours laboratory

Prerequisite: A minimum grade of 'C' in CHEM 110 and 110L; A minimum grade of 'C' in CHEM 115, or current enrollment in CHEM 115

Transfer acceptability: CSU; UC

Qualitative and quantitative investigations designed to accompany CHEM 115.

CHEM 197 Chemistry Topics (.5 - 4)

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture and/or laboratory may be scheduled by the department. Refer to Class Schedule.

Note: May be taken 4 times

Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.

Topics in Chemistry. See Class Schedule for specific topic offered. Course title will designate subject covered.

CHEM 205 Introductory Biochemistry (3)

3 hours lecture

Prerequisite: A minimum grade of 'C' in CHEM 105

Transfer acceptability: CSU; UC

Fundamental principles of the chemistry of living systems, including structure and function of proteins, nucleic acids, carbohydrates, and lipids. Emphasis on metabolism, energy storage and utilization.

CHEM 210 Analytical Chemistry (5)

3 hours lecture - 6 hours laboratory

Prerequisite: A minimum grade of 'C' in CHEM 115 and 115L

Transfer acceptability: CSU; UC

Principles, calculations, and applications of volumetric, gravimetric, and instrumental analysis. Practice in standardizing reagents and determining the composition of samples of various materials.

CHEM 220 Organic Chemistry (5)

3 hours lecture - 6 hours laboratory

Prerequisite: A minimum grade of 'C' in CHEM 115 and CHEM 115L

Transfer acceptability: CSU; UC

Integrated treatment of organic chemistry including electronic and orbital theory with applications to carbon bonding, stereo chemistry, resonance theory, and reaction mechanisms of both aliphatic and aromatic compounds. Strong emphasis on organic nomenclature, reactions, preparations, and synthesis of organic compounds. Laboratory: Techniques and theories involved in organic reactions and preparations, qualitative organic analysis, and instrumental methods.

CHEM 221 Organic Chemistry (5)

3 hours lecture - 6 hours laboratory

Prerequisite: A minimum grade of 'C' in CHEM 220**Transfer acceptability:** CSU; UC

Continuation of the integrated treatment of organic chemistry including electronic and orbital theory with applications to carbon bonding, stereo chemistry, resonance theory, and reaction mechanisms of both aliphatic and aromatic compounds. Strong emphasis on organic nomenclature, reactions, preparations, and synthesis of organic compounds. Laboratory: techniques and theories involved in organic reactions and preparations, qualitative organic analysis, and instrumental methods.

CHEM 295 Directed Study in Chemistry (1, 2, 3)

3, 6, or 9 hours laboratory

Prerequisite: Approval of project or research by department chairperson**Note:** May be taken 4 times for a maximum of 6 units**Transfer acceptability:** CSU; UC – Credit determined by UC upon review of course syllabus.

Independent study for students who have demonstrated skills and/or proficiencies in chemistry subjects and have the initiative to work independently on projects or research outside the context of regularly scheduled classes. Students will work under the personal supervision of an instructor.

Chicano Studies (CS)

See also Multicultural Studies

Contact the Multicultural Studies Department for further information.

(760) 744-1150, ext. 2206

Office: MD-354

COURSE OFFERINGS**CS 100 Introduction to Chicano Studies (3)**

3 hours lecture

Transfer acceptability: CSU; UC

The development of contemporary Chicano culture including various pre Columbian and Hispanic cultures in Mexico and the Southwest. A cross disciplinary approach examines applicable methods and theories from sciences and humanities.

CS 101 The Chicano in the United States (3)

3 hours lecture

Note: This course plus CS 102 meets the State requirement in American History and Institutions.**Transfer acceptability:** CSU; UC

An historical survey of the Mexican American/Chicano people in the United States. Emphasis on cultural and historical roots from pre Columbian times through the Spanish conquest period and subsequent cultural and racial mix, including the U.S. American culture in the Southwest.

CS 102 The Chicano and the American Political System (3)

3 hours lecture

Note: This course plus CS 101 meets the State requirement in American History and Institutions.**Transfer acceptability:** CSU; UC – CS 102, AS 110 and AIS 102 combined: maximum credit, one course

A basic and practical approach to understanding and utilizing the American political system. Includes a critical evaluation of leading issues affecting Chicanos as well as a survey of social and political organizations within the community. A description and analysis of Federal, State, and local government.

CS 105 Chicano Literature (3)

3 hours lecture

Transfer acceptability: CSU; UC

A survey of Chicano literature from its pre-Columbian origins. Analyzes the identity conflicts resulting from the dual cultures of Mexican and American worlds through literary works. Introduces the student to the rich and culturally diverse Chicano and Chicana authors that reflect the literary traditions that have mirrored the Chicano-Mexican reality in the United States.

CS 110 Contemporary Mexican Literature (3)

3 hours lecture

Transfer acceptability: CSU; UC

A survey of Mexican novels, prose and poetry from the Mexican Revolution to the present. Major landmark novels of Mexico will be examined in their social and historical context. Designed to acquaint non-Spanish major students with Mexican thought, values, and literary heritage relative to world literature.

CS 115 Literature of Latin America (3)

3 hours lecture

Transfer acceptability: CSU; UC

A survey of Latin American Literature which covers several epochs, genres, authors, cultures, countries, and literary movements in Mexico, Central America, South America, and the Caribbean. Some countries will stand out more than others because of the accessibility of literary works in translation.

CS 120 Introduction to Sociology of the Chicano (3)

3 hours lecture

Transfer acceptability: CSU; UC

The Chicano and the Chicano community within contemporary American society seen from a sociological perspective. Includes socialization/accluturation of the Chicano and the Chicano's role in societal institutions - family, marriage, religion, education, and economics.

CS 125 The History of Mexico (3)

3 hours lecture

Transfer acceptability: CSU; UC

A survey of the political, economic, and cultural development of the Mexican people and nation from the pre Columbian period through the Revolution of 1910.

CS 130 Contemporary Mexican Culture (3)

3 hours lecture

Transfer acceptability: CSU; UC

In-depth study of contemporary Mexican culture from the twentieth century to the present. Through an interdisciplinary approach, explores multiple aspects of Mexico's current trends in the political, historical, social, and cultural realms. Includes the Mexican Revolution of 1910, Cristeros War, PRI's sphere of influence, student movements, Mexico's current political system, U.S.-Mexico relations, and Mexico's current transition towards democracy. Also includes different forms of cultural expressions such as literature, visual arts, film, song, and other written and multimedia sources.

CS 135 Mexican Art History (3)

3 hours lecture

Transfer acceptability: CSU; UC

Study of a broad spectrum of Mexico's arts through its literature, music, theatre, dance, and visual arts from pre-Columbian times to the present. Topics may include various musical and literary genres, folkloric dances, sculpture, and paintings. Designed to increase knowledge and appreciation of general Mexican arts and culture. Exploration of Mexican history and social development as it is expressed in its artwork. Highlights include analytical approaches to cultural syncretism as well as field trips to performances, film screenings, and exhibitions to galleries and museums.

CS 155 Ancient Civilizations of Meso America (3)

3 hours lecture

Note: Cross listed as ANTH 155**Transfer acceptability:** CSU; UC

Civilizations of Pre Columbian Mexico and Central America with a focus on their origins and achievements.

CS 161A Elementary Classical Nahuatl IA (3)

3 hours lecture

Note: Cross listed as AIS 161A**Transfer acceptability:** CSU; UC

This is an introductory course on the Classical Nahuatl language of the Aztec Empire. Students will acquire a basic knowledge of Nahuatl morphology and syntax.