

Chemistry

Warriors on the Way to STEM

WOW2STEM

Merced College

Chemistry is known as the central science because the study of matter and energy impacts many disciplines. Throughout the curriculum, chemistry majors develop strong reasoning and analysis skills to address problems that are put into hands-on practice in our laboratories. Students learn to work individually and collaboratively to design, carry out, and interpret experiments utilizing modern instrumentation and facilities.

What can I do with a degree in Chemistry?

The Chemistry B.S. Degree program is nationally approved by the American Chemical Society. The Chemistry B.S. Degree program prepares students for a career as a professional chemist. This degree commonly leads to graduate school for an advanced degree (MS, PhD), professional chemist in industry or government agencies (agriculture, health, biotechnology, air and water resource management, etc.).

How can I participate in WOW2STEM?

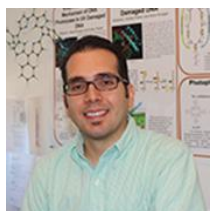
- Meet with a STEM counselor each semester at your community college.
- Follow a student educational plan (SEP) as outlined by a STEM counselor.
- Attend presentations and workshops throughout the year.
- Follow application dates and deadlines as directed by the Transfer Advisor and Stanislaus State.

For more information you may contact:

Elizabeth Monroe, Transfer Specialist
209.667.3164

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www.csustan.edu/STEM-success



Dr. Elvin Alemán is a professor in the Chemistry department at Stanislaus State. His current research projects include Single Molecule Fluorescence studies of how DNA repair enzymes work, and the photophysical characterization of corrole and porphyrin molecules which is important for molecular, electronic and photonic device applications.

Chemistry B.A. Roadmap		
Prerequisites to Lower-Division Courses	Lower-Division Courses at Merced College	Major Course Requirements at Stanislaus State
CHEM-04A & MATH-C	CHEM-04A (Gen. Chem I)	Lower-Division Major Course Requirement: CHEM 2010 – Quantitative Analysis & Basic Instrumental Techniques (Complete at Stanislaus State - 4 units)
CHEM-04A	CHEM-04B (Gen. Chem II)	
CHEM-02A & MATH-C	CPSC-06 (Programming Concepts & Methodology I)	
MATH-02	MATH-04A (Calculus I)	
MATH-04A	MATH-04B (Calculus II)	Upper-Division Major Course Requirements:
MATH-02 <u>or</u> MATH-25& 26 PHYS-02A MATH-04A PHYS-04A & MATH-04B MATH-04B & PHYS-04B	<u>Complete one sequence:</u> PHYS-02A (Gen. Physics I) PHYS-02B (Gen. Physics II) <u>Or</u> PHYS-04A (Physics I) PHYS-04B (Physics II) PHYS-04C (Physics III)	CHEM 4030 – Biophysical Chemistry (3 units) CHEM 4110 – Applied Instrumental Methods (4 units) CHEM 4400 – Biochemistry I (3 units) Upper-Division Electives (Minimum 14 units)
	CHEM-04B	*CHEM-12A (Org. Chem. I)
CHEM-12A	*CHEM-12B (Org. Chem II)	Major Total = 24 Upper-Division units
*CHEM 12A & 12B satisfy the Organic Chemistry series requirement, but do not count as upper-division units. Nonetheless, the BA degree requirements can only be completed within two years after, if the Organic Chemistry series is completed before transferring to Stanislaus State. **The Biology sequence (4A & 4B) are approved course articulation as a series only, for the Biochemistry concentration.		

For all degree requirements, visit www.csustan.edu/roadmaps

Chemistry B.S. Roadmap

Prerequisites to Lower-Division Courses	Lower-Division Courses at Merced College	Major Course Requirements at Stanislaus State
CHEM-02A & MATH-C	CHEM-04A* (General Chem I)	Lower-Division Major Course Requirement: CHEM 2010 – Quantitative Analysis & Basic Instrumental Techniques (4 units) Upper-Division Major Course Requirements: CHEM 4010 - Physical Chemistry I (3 units) CHEM 4012 - Physical Chemistry Lab I (1 unit) CHEM 4020 - Physical Chemistry II (3 units) CHEM 4022 - Physical Chemistry Lab II (1 unit) CHEM 4100 - Instrumental Analysis (WP) (4 units) CHEM 4200 - Advanced Inorganic Chemistry (3 units) CHEM 4212 - Advanced Chemistry Lab (2 units) CHEM 4400 - Biochemistry I (3 units) Upper-Division Electives (minimum 11 units*) Major Total = 31 Upper-Division units
CHEM-04A	CHEM-04B* (General Chem II)	
CHEM-04B	CHEM-12A** (Organic Chem I)	
CHEM-12A	CHEM-12B**	
MATH C or MATH-61	CPSC-06 (Programming Concepts & Methodology)	
MATH -02	MATH -04A (Calculus I)	
MATH-04A	MATH -04B (Calculus II)	
MATH-04B	MATH -04C (Multivariable Calculus)	
MATH-04A PHYS-04A	PHYS-04A (Physics I) & PHYS-04B (Physics II) & PHYS-04C (Physics III)	
Approved course articulation with Biology 1050/1150 (BIOL-04A/04B) is accepted as a <u>series only</u> . The Lecture and Lab must be completed at Merced College to receive credit at Stanislaus State. These courses can be used to meet the Biochemistry Concentration requirement. *CHEM-04A/04B must be completed at Merced before transferring to Stanislaus State to ensure timely progress. **While CHEM-12A & CHEM-12B satisfy the Organic Chemistry requirement, they do not count as upper-division units. Upon transfer, an additional 8 units of upper-division elective units will be required to complete the major.		

For all degree requirements, visit www.csustan.edu/roadmaps

Name: _____ Major: _____ Date: _____ Student ID#: _____

Additional Major Prerequisites

