

# CHEMISTRY, ASSOCIATE IN SCIENCE FOR TRANSFER

Chemistry is the study of matter, including its composition, its properties, and the transformations it undergoes. Chemistry is considered “the central science” because it draws from physics and mathematics and its principles and applications constitute the foundation for other scientific disciplines including the biological sciences, the earth sciences, engineering, and medicine. A degree in chemistry affords excellent academic preparation for further study in any of these disciplines.

The Associate in Science in Chemistry for Transfer degree (AS-T in Chemistry) prepares students to pursue a Bachelor’s degree in Chemistry at a California State University. Successful completion of the transfer degree guarantees the student acceptance to a California State University (but does not guarantee acceptance to a particular campus or major). Students must complete the Associate Degree for Transfer requirements to earn the AS-T degree.

## Learning Outcomes

Upon successful completion of the program, students will be able to:

- Describe the particle nature of matter, explain the attractions and/or bonds between chemical units, and predict the physical and chemical properties they possess.
- Describe chemical compounds and their reactions using the fundamental language of chemistry, including the use of proper chemical names, molecular formulas, chemical equations, structural drawings, and reaction mechanisms.
- Predict the likelihood and extent of a chemical reaction by analyzing the kinetic and thermodynamic properties of the system.
- Solve chemistry-specific problems by identifying the essential parts of the problem, formulating a strategy for solving the problem, applying appropriate techniques to arrive at a solution, testing the correctness of the solution, and interpreting the results.
- Successfully execute chemistry experiments using standard laboratory equipment, modern instrumentation, and classical purification techniques.
- Communicate the concepts and results of chemistry experiments through effective writing and/or oral communication using the discipline standards for reporting and citation.
- Follow the proper procedures and regulations for safe handling and use of chemicals.

## Associate in Science for Transfer Degree Major Requirements

Code	Title	Units
<b>Required Core</b>		
CHEM 1A	General Chemistry I	5
CHEM 1B	General Chemistry II	5
CHEM 12A	Organic Chemistry I	5
CHEM 12B	Organic Chemistry II	5
MATH 20A	Calculus with Analytic Geometry I	4
MATH 20B	Calculus with Analytic Geometry II	4
PHYS 3A	Science and Engineering Physics I	4
PHYS 3B	Science and Engineering Physics II	4

<b>TOTAL MAJOR UNITS</b>	<b>36</b>
<b>Additional Requirements</b>	<b>24</b>
Complete IGETC for STEM pattern for a total of 60 transferable units. 1	

**Total Units** **60**

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This degree program requires completion of the IGETC for STEM pattern, allowing for completion after transfer of one course each in IGETC Area 3 (Arts and Humanities) and Area 4 (Social and Behavioral Sciences).

Please refer to the graduation requirements section of the Catalog for information about degree and certificate requirements including Reading and Writing, Mathematics, Information Competency, and General Education requirements.