

CHEMISTRY, ASSOCIATE IN SCIENCE DEGREE FOR TRANSFER

Banner Code: 3_AST_CHEM
Financial Aid Eligible

Chemistry is the study of matter, defined as anything that has mass and takes up space, and the changes that matter can undergo when it is subject to different environments and/or changes in its physical conditions. The five major fields of study contained within the subject of chemistry include analytical chemistry (including forensics), biochemistry, inorganic chemistry, organic chemistry, and physical chemistry.

The core concepts of chemistry are influential in other disciplines as the principles and analytical tools of chemistry are used to target biological processes inside living cells and organisms. Processes in the field of chemistry may be successfully used in determining and/or predicting different geological phenomena and events and progressions. Chemistry is integral in medicine such as in the development of medications and surgical materials as well as laboratory tests. Chemistry can help us to understand, monitor, protect and improve the environment around us by utilizing tools and techniques to measure air and water pollution.

This Transfer Model Curriculum presumes completion of IGETC for STEM, allowing for completion of 6 units of non-STEM GE work after transfer. The high number of Discipline units for this TMC prohibits the CSU GE Breadth pathway. Students seeking this degree should be advised that an additional course in CSU GE Area A1 will be required of them to be admitted to CSU as a transfer student.

Associate Degrees for Transfer (AA-T or AS-T) are open to all Coastline students. Students who do not plan on transferring to a California State University school should consult their Counselor regarding the benefits of an AA-T/AS-T degree based on their goals. Students earning an AA-T or AS-T and intending on transferring to a California State University school receive transfer admission benefits for specific majors at many California State University campuses. Visit the Transfer Information (<https://catalog.cccd.edu/coastline/transfer-information/>) catalog page for more information.

Program Level Student Learning Outcomes

Upon completion of this program, students will be able to:

1. Explain three fundamental processes present in chemistry including atomic and molecular structure, chemical equilibrium with applications to acids and bases, thermodynamics, chemical kinetics, and reaction mechanisms.
2. Given the appropriate laboratory setting, design and apply the process of science to postulate a hypothesis, collect and interpret data and formulate a conclusion.

3. Communicate chemical concepts effectively in written and/or oral forms and locate, select and evaluate scientific information present in primary research literature, mass media, online or other sources.

Associate Degree for Transfer Requirements

1. Minimum of 60 CSU-transferable semester units. A minimum of 12 units must be in residence within Coast Colleges (Coastline College, Golden West College, and/or Orange Coast College).
2. Minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework.
3. Completion of a minimum of 18 semester units in an Associate Degree for Transfer major as detailed in the catalog.
4. Certified Completion of the California State University General Education-Breadth pattern (CSU GE Breadth - Coastline's Option 2 General Education pattern), OR the Intersegmental General Education Transfer Curriculum (IGETC - Coastline Option 3 General Education pattern).

Course	Title	Units
Required Core		
Complete the following:		
CHEM C180	General Chemistry A	4
CHEM C180L	General Chemistry A Lab	1
CHEM C185	General Chemistry B	4
CHEM C185L	General Chemistry B Lab	1
CHEM C220	Organic Chemistry A	3
CHEM C220L	Organic Chemistry A Lab	2
CHEM C225	Organic Chemistry B	3
CHEM C225L	Organic Chemistry B Lab	2
MATH C180	Calculus 1	5
MATH C185	Calculus 2	5
PHYS C185	Calculus Based Physics: Mechanics	4
PHYS C280	Calculus Based Physics: Electricity and Magnetism	4
Units Required for Major		38
CSU General Education or IGETC for STEM		31-33
Transfer Electives as needed to reach 60 transferable units		Varies
Total Units for Degree		60