

CHEMISTRY, ASSOCIATE IN ARTS

The Associate in Arts in Chemistry is designed for students who plan to transfer to earn a Bachelor of Arts or Bachelor of Science degree in Chemistry at a California State University or other independent or out-of-state university. The AA in Chemistry introduces the concepts and principles upon which chemical knowledge is based, including chemical structures and nomenclature, stoichiometry and solving of chemical equations, the thermodynamics of chemical reactions, and theories of chemical bonding. Students will develop skills for critical/analytical thinking, perceptive reading/observation and interpretation. Students should work with a counselor and consult articulation agreements on ASSIST to ensure they are meeting admission and major requirements of their specific intended transfer institution.

Course ID	Title	Units/ Hours
Required Core Courses		20
CHEM R120	General Chemistry I	
CHEM R122	General Chemistry II	
MATH R120	Calculus with Analytic Geometry I	
MATH R121	Calculus with Analytic Geometry II	
Required Additional Courses		
Complete a minimum of 3 units from the courses below as required for the intended transfer institution		3-26
CHEM R130	Organic Chemistry I	
CHEM R132	Organic Chemistry II	
MATH R122	Calculus with Analytic Geometry III	
MATH R134	Linear Algebra	
MATH R143	Differential Equations	
BIOL R101	General Biology	
or BIOL R101H	Honors: General Biology	
BIOL R120	Principles of Biology I	
Complete a minimum of 10 units in Physics from the same series, as required by the intended transfer institution		10-15
Sequence 1:		
PHYS R101	College Physics 1	
PHYS R101L	College Physics 1 Laboratory	
PHYS R102	College Physics 2	
PHYS R102L	College Physics 2 Laboratory	
Sequence 2:		
PHYS R121	Physics with Calculus 1	
PHYS R122	Physics with Calculus 2	
Series 3:		
PHYS R131	Physics for Scientists and Engineers 1	
PHYS R132	Physics for Scientists and Engineers 2	
PHYS R133	Physics for Scientists and Engineers 3	
Total Required Major Units		33-61
CSU GE-Breadth		39
Health		3
Kinesiology Activity		1
Double-Counted Units		- 7-10
Free Electives		0

Total Units Required for A.A. Degree	66-94
OR	
Total Required Major Units	33-61
IGETC	37
Health	3
Kinesiology	1
Double-Counted Units	- 7-10
Free Electives Required	0
Total Units for A.A. Degree	64-92

To complete the Associate Degree, students must meet requirements in the major, general education, competency, units, scholarship, and residency. Refer to Graduation Requirements - Earn an Associate Degree and the A.A. or A.S. Degree in Specific Majors sections of this catalog.

Proposed plan of study for A.A. degree in Chemistry:

Year 1		Units/Hours
Fall Semester		
CHEM R120	General Chemistry I	5
MATH R120	Calculus with Analytic Geometry I	5
Units/Hours		10
Spring Semester		
CHEM R122	General Chemistry II	5
MATH R121	Calculus with Analytic Geometry II	5
Units/Hours		10
Year 2		
Fall Semester		
PHYS R101	College Physics 1	4
PHYS R101L	College Physics 1 Laboratory	1
or		
PHYS R121	Physics with Calculus 1	5
Units/Hours		10
Spring Semester		
PHYS R102	College Physics 2	4
PHYS R102L	College Physics 2 Laboratory	1
or		
PHYS R122	Physics with Calculus 2	5
Units/Hours		10
Total Units/Hours		40

Please note: This plan of study contains only the required core courses and not restricted electives or general education.

If students plan to transfer to **CSUCI** to major in chemistry, it is advised that they complete CHEM R130 and CHEM R132 prior to transfer. These are required courses for the B.A. or the B.S. in Chemistry at CSUCI as well as most B.A. or B.S. degree programs in chemistry or biochemistry at other four-year universities.

For a B.S. in Chemistry with an option in Biochemistry at **CSUCI**, students should also complete BIOL R120 Principles of Biology I (Units: 4) prior to transfer.

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

- Conduct experiments, analyze data, and interpret results, while observing responsible and ethical scientific conduct.
- Demonstrate an understanding of major concepts, theoretical principles and experimental findings in chemistry.

- Be prepared to transfer to a university or enter allied health programs such as dental hygiene.
- Demonstrate a foundational knowledge of general principles of chemistry and be able to apply this knowledge to the solution of problems and performance of experiments.
- Demonstrate proficiency in the use of appropriate instrumentation to collect and record data from chemical experiments.
- Use critical thinking and efficient problem-solving skills in the four basic areas of chemistry: analytical, inorganic, organic, and physical.
- Use modern instrumentation for chemical analysis.