

CHEMISTRY, B.S.

Program Learning Outcomes

Students who complete the program in Chemistry will be able to:

- 1. Apply key concepts and principles in analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry.
- 2. Use standard instrumentation and laboratory equipment to conduct scientific experiments and perform chemical characterizations and analyses.
- 3. Participate in the life of the Chemistry Department by involvement in one or more of the following areas: research, chemistry club, and/or various positions of responsibility serving as graders, tutors, stockroom workers and/or teaching assistants.
- 4. Be prepared for post-graduate studies or a science-related career.

Code	Title	Units
Lower-Division Requirements		
CHE 1052 and CHE 1052L	General Chemistry I (GE) and General Chemistry I Lab (GE)	5
CHE 1053 and CHE 1053L	General Chemistry II and General Chemistry II Lab	4
CHE 2013 and CHE 2013L	Analytical Chemistry and Analytical Chemistry Lab	3
CHE 2094 and CHE 2094L	Organic Chemistry I and Organic Chemistry I Lab	4
CHE 2096 and CHE 2096L	Organic Chemistry II and Organic Chemistry II Lab	4
MTH 1064 and MTH 1064L	Calculus I (GE) and Calculus I Lab (GE)	4
MTH 1074 and MTH 1074L	Calculus II and Calculus II Lab	4
PHY 2044 and PHY 2044L	University Physics I (GE) and University Physics I Lab (GE)	4
PHY 2054 and PHY 2054L	University Physics II and University Physics II Lab	4
Upper-Division Requirements		
CHE 3025 and CHE 3025L	Chemical Thermodynamics and Kinetics and Chemical Thermodynamics and Kinetics Lab	4
CHE 3026 and CHE 3026L	Quantum Chemistry and Quantum Chemistry Lab	4
CHE 3051 and CHE 3051L	Organic Structure Elucidation and Organic Structure Elucidation Lab	2
CHE 3070 and CHE 3070L	Instrumental Analysis and Instrumental Analysis Lab	2
CHE 4050 and CHE 4050L	Advanced Biochemistry and Advanced Biochemistry Lab	4
CHE 4053 and CHE 4054L	Advanced Organic Chemistry and Advanced Organic Chemistry Lab	3
CHE 4066	Bioinorganic Chemistry	2
CHE 4068 and CHE 4068L	Advanced Inorganic Chemistry and Advanced Inorganic Chemistry Lab	4
CHE 4095	Chemistry Seminar	1

Biology and Physics 3000-level or higher, Math 2000-level or higher 3-4
1,2

Total Units 65-66

- ¹ Science and/or Math electives beyond those required for the degree must be approved by the department chair.
- ² Recommended: CHE 4099, MTH 2033, MTH 2074

Notes(s): Accepting Associate Degree for Transfer (ADT) (<https://pointloma-public.courseleaf.com/prior-catalogs/2024-2025/tug-catalog/colleges-schools-departments/adt/>)