

Minor in Chemistry

23 units

Requirements

- The minimum prerequisites for the chemistry minor are a *C-* in CHEM 151 and a *B-* in MATH 110 or equivalent (e.g., a score of 65 on ALEKS).
- Students must complete all prerequisites for a BIOC, BIOL, or CHEM course with a *C-* or better before taking the course (except as noted in the course description).
- Students must maintain a minimum cumulative GPA of 2.0 in all biology, chemistry, biochemistry, math, and physics courses required for the minor.
- Students must complete each course required for the minor with a *C-* or higher for the course to meet a degree requirement in the Department of Biology and Chemistry.
- Any single course within the minor can be taken only two times at APU; students will be dismissed from the minor after two unsuccessful (below *C-*) attempts in a single required course.
- Only two courses total within the minor can be repeated; students will be dismissed from the minor after unsuccessful (below *C-*) attempts in any three required courses.

Code	Title	Units
Lower-Division Chemistry Requirements		
CHEM 151 & CHEM 152	General Chemistry I and General Chemistry II ^{1, 2}	8
CHEM 251 & CHEM 252	Organic Chemistry: Theory I and Organic Chemistry: Theory II	6
CHEM 261 & CHEM 262	Organic Chemistry - Lab and Organic Chemistry - Lab	2
Upper-Division Chemistry Electives		
Choose 7 elective units from the following; these may not include units used to fulfill requirements of the student's major.		
BIOC 360 or BIOC 270 or BIOC 370	Principles of Biochemistry Biomolecular Chemistry Biomolecular Metabolism	
BIOC 390	Physical Biochemistry	
CHEM 300 & CHEM 310	Quantitative Chemical Analysis - Theory and Quantitative Chemical Analysis - Laboratory	
CHEM 320 & CHEM 330	Instrumental Analysis: Theory and Instrumental Analysis - Lab ³	
CHEM 311	Teaching and Learning in STEM ⁴	
CHEM 312	STEM Education Research Seminar ⁴	
CHEM 313	STEM Teaching Practicum ⁴	
CHEM 394	Directed Research Internship ^{4, 5}	
CHEM 395	Chemical Science Internship ^{4, 6}	
CHEM 401	Physical Chemistry I	
CHEM 402	Physical Chemistry II	
CHEM 411	Physical Chemistry I Lab	
CHEM 412	Physical Chemistry II Lab	
CHEM 451	Advanced Organic Chemistry	
CHEM 461	Inorganic Chemistry	
CHEM 495	Advanced Topics in Chemistry	
Total Units		23

¹ CHEM 151 meets the General Education Natural Sciences requirement.

² May be waived with the appropriate Advanced Placement test scores.

³ CHEM 320 meets the General Education Integrative and Applied Learning requirement.

⁴ Up to 3 units combined of CHEM 311, CHEM 312, CHEM 313, CHEM 394, and CHEM 395 may count toward minor elective units.

⁵ All research done within CHEM 394 must be done primarily with a member of the chemistry faculty.

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⁶ CHEM 395 must be approved by the course instructor for credit toward the chemistry minor.