Chemistry
Bachelor of Science
2025-2026

General Areas of Service: Chemists study substances at the atomic and molecular levels and the ways in which the substances interact with each other. They may apply their study to finding solutions to environmental problems, determining the causes of diseases and providing preventive vaccines and cures, and discovering or synthesizing new substances and materials that have useful properties and characteristics. The most common occupations of chemists include basic or applied research in industrial, academic, or government laboratory settings, development and testing of new products for chemical and pharmaceutical industries, analysis of clinical and industrial samples, teaching at the secondary or college level, and various sales, support, and technical writing positions.

Professional Training: A bachelor's degree in chemistry or biochemistry is usually the minimum education necessary to work as a chemist. However, many research jobs require a masters or Ph.D. degree. In government or industry, beginning chemists with a bachelor's degree work in technical sales or services, quality control, or assist senior chemists in research and development laboratories.

Job Outlook: According to the Bureau of Labor Statistics (BLS), "...employment of chemists and materials scientists is projected to grow 6 percent from 2021 to 2031, about as fast as the average for all occupations... Chemists who have laboratory experience outside of a classroom environment, such as through a cooperative program or internship, are likely to meet with better employment prospects after graduation." (See www.bls.gov)

Earnings: In their May 2021 salary survey, the Bureau of Labor Statistics reports the median annual wage for chemists as $79,430, with the lowest 10 percent earning less than $48,100, and the highest 10 percent earning more than $134,780. They also report the median annual wage for materials scientists as $100,090, with the lowest 10 percent earning less than $56,380, and the highest 10 percent earning more than $162,950. The expected salaries are higher for chemists and materials scientists holding advanced degrees. (See www.bls.gov)

Note: Senior students are required to take the Major Field Achievement Test (MFAT) examination in chemistry.

Those who are seeking teaching certification must see an adviser in the School of Education and Psychology.

CHEMISTRY DEPARTMENT

Rigby Hall
(509) 527-2761

Websites
Walla Walla University
University Bulletin

Chemistry Department

Faculty
Chair
Kyle Craig

Advisors
Joseph Brannaka
Kyle Craig
Melvin Roberts

Professional Organizations
American Chemical Society

Chemical & Engineering News

Suggested Degree Path

TOTAL CREDITS REQUIRED: 192 cr. GENERAL STUDIES REQUIREMENTS: 64-69 cr. See the Undergraduate Bulletin for Details
The chart below details one suggested path a student may take to complete a bachelor's degree in Chemistry.
Cognates are listed in *italics*

Freshman Year

Fall Courses	Hours
General Chemistry & Lab (CHEM 141 & 144)	4
Calculus I (MATH 171)	*4*
General Studies	8
Total	16

Winter Courses	Hours
General Chemistry & Lab (CHEM 142 & 145)	4
Calculus II (MATH 172)	*4*
Intro to Analytical Writing (ENGL 121)	3
General Studies	5
Total	16

Spring Courses	Hours
General Chemistry & Lab (CHEM 143 & 146)	4
Intro to Research Writing (ENGL 122)	3
Calculus III (MATH 273)	*4*
General Studies	5
Total	16

Sophomore Year

Fall Courses	Hours
Organic Chemistry & Lab (CHEM 321 & 324)	5
Physics Option (PHYS 211/214 OR 251/254)	*4*
General Studies	7
Total	16

Winter Courses	Hours
Organic Chemistry & Lab (CHEM 322 & 325)	5
Physics Option (PHYS 212/215 OR 252/255)	*4*
Calculus IV (MATH 274)	*4*
General Studies/General Elective	3
Total	16

Spring Courses	Hours
Intermediate Organic Chemistry & Lab (CHEM 383 & 386)	4
Chemical Laboratory Techniques (CHEM 305)	1
Physics Option (PHYS 213/216 OR 253/256)	*4*
Statistics Option (MATH 106 OR 315)	*4*
General Studies	3
Total	16

Junior Year

Fall Courses	Hours
- Quantum Chemistry (CHEM 350)	(3)
Integrated Chemistry Lab (CHEM 405)	1
Foundations of Biochemistry (CHEM 431)	4
General Studies	8-11
Total	16

Winter Courses	Hours
Chemical Equilibrium & Analysis (CHEM 301)	3
Career Preparation Seminar (CHEM 390)	0
Integrated Chemistry Lab (CHEM 405)	1
Foundations of Biochemistry Option (CHEM 432)	(3)
General Studies/General Elective	9-12
Total	16

Spring Courses	Hours
Integrated Chemistry Lab (CHEM 405)	1
Inorganic Chemistry Option (- CHEM 427 OR CHEM 442; the latter offered as needed)	4
+ Organic Structural Problems Option (CHEM 429)	(4)
General Studies/General Elective	7-11
Total	16

Senior Year

Fall Courses	Hours
- Quantum Chemistry (CHEM 350)	(3)
Integrated Chemistry Lab (CHEM 405)	1
General Studies/General Elective	12-15
Total	16

Winter Courses	Hours
Physical Chemistry I (CHEM 352)	4
Integrated Chemistry Lab (CHEM 405)	1
General Studies/General Elective	11
Total	16

Spring Courses	Hours
Physical Chemistry II (CHEM 353)	3
Integrated Chemistry Lab (CHEM 405)	1
Analytical Instrumental Methods (CHEM 303) (offered as needed)	3
Communicating Chemistry (WD) (CHEM 497)	2
Directed Research/Project (CHEM 479)	2
General Studies/General Elective	5
Total	16

+ Offered even years only
- Offered odd years only

Office of Academic Advisement
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