

REQUIREMENTS FOR THE BACHELOR OF SCIENCE
DODGE FAMILY COLLEGE OF ARTS AND SCIENCES
THE UNIVERSITY OF OKLAHOMA

Academic Year
For Students Entering the Oklahoma State System for Higher Education Summer 2024 through Spring 2025

General Requirements	
Minimum Total Credit Hours	120
Minimum Upper-Division Hours	48
Major Hours	33-34
Minimum Retention/Graduation Grade Point Averages:	
Overall - Combined and OU	2.00
Major - Combined and OU	2.00

Program
Chemistry and Biochemistry (Standard Option)
B170
Bachelor of Science

OU encourages students to complete at least 30 hours of applicable coursework each year to have the opportunity to graduate in 4 years.

GENERAL EDUCATION AND COLLEGE REQUIREMENTS

Courses for fulfillment of General Education and Dodge College of Arts & Sciences requirements must be from the approved General Education course list published in the Class Schedule or at <http://www.ou.edu/gened/courses>. Courses graded P/NP will not apply.

UNIVERSITY-WIDE GENERAL EDUCATION (MINIMUM 40 HOURS) AND COLLEGE REQUIREMENTS

Code	Title	Credit Hours
Core Area I: Symbolic and Oral Communication		
<i>English Composition (6 hours)</i>		
ENGL 1113	Principles of English Composition	3
ENGL 1213	Principles of English Composition	3
or EXPO 1213	Expository Writing	
<i>Language (0-13 hours in the same language)</i>		
The college requirement cannot be met by high school coursework.		
Beginning Course		0-5
Beginning Course, continued		0-5
Intermediate Course (2000 level) ^{1,2}		0-3
<i>Mathematics (3 hours)</i>		
Choose one course from the General Education Mathematics list		
Core Area II: Natural Science (7 hours, including one laboratory component)		
<i>Biological Science</i>		
Choose an approved General Education Natural Science course with one of the following prefixes: BIOL, HES, MBIO, or PBIO ¹		
<i>Physical Science</i>		
Choose an approved General Education Natural Science course with one of the following prefixes: AGSC, ASTR, CHEM, GEOG, GEOL, GPHY, METR, or PHYS ¹		
Core Area III: Social Science (6 hours)		
P SC 1113	American Federal Government	3
Choose one course from the General Education Social Science list		
Core Area IV: Arts and Humanities (18 hours)		
<i>Artistic Forms</i>		
Choose one course from the General Education Artistic Forms list		
<i>Western Culture</i>		
HIST 1483	United States to 1865	3
or HIST 1493	United States, 1865 to the Present	
Choose one course from the General Education Western Culture list (excluding HIST 1483/1493)		
<i>World Culture</i>		
Choose one course from the General Education World Culture list		
<i>Additional Core IV Upper-Division Arts & Humanities courses</i>		
Choose one course from Artistic Forms, Western Culture, or World Culture ^{1,3}		
Choose one course from Artistic Forms, Western Culture, or World Culture ^{1,3}		
Core Area V: First Year Experience (3 hours)		
Choose one course		
Total Credit Hours		56

- 1 College of Arts and Sciences Requirements: college requirements are not automatically fulfilled by a previous degree.
- 2 One course at the intermediate level or demonstrated competency at that level
- 3 6 upper-division hours, 2 courses, at the 3000- 4000-level. *Must be outside the major.*

FREE ELECTIVES

Electives to bring total applicable hours to the minimum total required for the degree including 48 upper-division hours.

MAJOR REQUIREMENTS

- Some courses required for the major may also fulfill University General Education and/or Dodge College of Arts & Sciences Requirements
- A grade of C or better must be earned in each Chemistry course presented for major credit. No grade below a C made in Chemistry courses at the upper-division level may be made up elsewhere without prior written approval by the OU Chemistry Department.
- The introductory courses (CHEM 1315, CHEM 1335, CHEM 1415, CHEM 1425, & CHEM 1435) do not count towards the 33-34 required major hours.

Code	Title	Credit Hours
Chemistry		
CHEM 1315	General Chemistry	
or CHEM 1335	General Chemistry I: Signature Course	
Choose one of the following:		
CHEM 1415	General Chemistry (Continued)	
CHEM 1425	Advanced General Chemistry (HONORS)	
CHEM 1435	General Chemistry II: Signature Course	
CHEM 3064	Organic Chemistry I	4
CHEM 3164	Organic Chemistry II	4
CHEM 3005	Quantitative Analysis	5
CHEM 3421 & CHEM 3423	Physical Chemistry Laboratory and Physical Chemistry I	4
CHEM 3521 & CHEM 3523	Physical Chemistry Laboratory and Physical Chemistry II	4
CHEM 3653	Introduction to Biochemistry	3
CHEM 4023	Instrumental Methods of Chemical Analysis	3
CHEM 4033	Instrumental Methods of Chemical Analysis Laboratory	3-4
or CHEM 4444	Advanced Synthesis and Spectral Characterization	
Choose 3 hours from the following:		
CHEM 3753	Introduction to Biochemical Methods	
CHEM 4333	Advanced Inorganic Chemistry-Periodic System	
CHEM 4753	Principles of Biochemistry I	
CHEM 4970	Special Topics/Seminar	
Total Credit Hours		33-34

MAJOR SUPPORT REQUIREMENTS

Code	Title	Credit Hours
Math		
Choose one of the following:		
MATH 1823 & MATH 2423	Calculus and Analytic Geometry I and Calculus and Analytic Geometry II	6-8
MATH 1914 & MATH 2924	Differential and Integral Calculus I and Differential and Integral Calculus II	
Physics		
Choose one of the following:		
PHYS 2414 & PHYS 2424	General Physics for Life Science Oriented Majors and General Physics for Life Science Oriented Majors	
PHYS 2514 & PHYS 2524	General Physics for Engineering and Science Majors and General Physics for Engineering and Science Majors	
Total Credit Hours		14-16

More information in the catalog: (<http://ou-public.courseleaf.com/dodge-arts-sciences/chemistry-biochemistry/chemistry-biochemistry-standard-option-bachelor-science/>).

INFORMATION CONCERNING GENERAL RULES, REGULATIONS AND MINIMUM REQUIREMENTS

Arts and Sciences Hours: At least 80 semester hours of liberal arts and sciences courses are required for a BA degree. At least 55 semester hours of liberal arts and sciences courses are required for a BS degree.

Pass/No Pass Enrollment: A maximum of 16 semester hours of free elective credit may be attempted under this option.

Individual Studies (e.g., courses titled "Independent Study"): A maximum of 12 total semester hours may be counted toward graduation, excluding Honors Reading and Honors Research.

P.E. Courses: No physical education activity courses will be counted toward the 120 semester hours of acceptable credit for graduation.

Senior Institution Hours: A minimum of 60 semester hours applied toward graduation must be earned at senior (4-year) institutions.

Residency:

- At least 15 of the final 30 hours applied toward the degree or at least 50 percent of the hours required by the institution in the major field must be satisfactorily completed at the awarding institution.
- At least 15 semester hours of upper-division major work must be completed in residence at OU.
- OU correspondence courses are *not* considered resident credit.

Grade Point Averages: Students must earn a minimum over all 2.00 for each of the following: Combined Retention GPA (all college grades), OU Retention GPA, GPA for all major courses, and GPA for all major courses taken at OU. Some schools and departments of the College have higher minimum grade point averages required for their students.

SUGGESTED SEMESTER PLAN OF STUDY

This plan shows one possible grouping of courses that would allow students to graduate in four years. Please refer to the front of the degree checksheet for official requirements. Students must consult with Dodge College of Arts and Sciences and/or Department of Chemistry and Biochemistry academic advisors to verify that courses selected each semester fulfill the recommended plan and satisfy University, College of Arts and Sciences, and Chemistry and Biochemistry major requirements.

Year	FIRST SEMESTER	Hours	SECOND SEMESTER	Hours		
FRESHMAN	CHEM 1315 or CHEM 1335	General Chemistry or General Chemistry I: Signature Course	5	Choose one of the following:	5	
	ENGL 1113	Principles of English Composition (Core I)	3	CHEM 1415	General Chemistry (Continued)	
	MATH 1823 or MATH 1914	Calculus and Analytic Geometry I (Core I) or Differential and Integral Calculus I	3-4	CHEM 1425	Advanced General Chemistry (HONORS)	
		First Year Experience (Core V)	3	CHEM 1435	General Chemistry II: Signature Course	
				ENGL 1213 or EXPO 1213	Principles of English Composition (Core I) or Expository Writing	3
				MATH 2423 or MATH 2924	Calculus and Analytic Geometry II or Differential and Integral Calculus II	3-4
				Artistic Forms (Core IV)	3	
	CREDIT HOURS		14	CREDIT HOURS	14	
SOPHOMORE	CHEM 3064	Organic Chemistry I	4	CHEM 3005	Quantitative Analysis	5
	PHYS 2514 or PHYS 2414	General Physics for Engineering and Science Majors or General Physics for Life Science Oriented Majors	4	CHEM 3164	Organic Chemistry II	4
		Biological Science without lab (Core II)	3	PHYS 2524 or PHYS 2424	General Physics for Engineering and Science Majors or General Physics for Life Science Oriented Majors	4
	HIST 1483 or HIST 1493	United States to 1865 (Core IV) or United States, 1865 to the Present	3		World Culture (Core IV)	3
		CREDIT HOURS	14	CREDIT HOURS	16	
JUNIOR	CHEM 3421	Physical Chemistry Laboratory	1	CHEM 3521	Physical Chemistry Laboratory	1
	CHEM 3423	Physical Chemistry I	3	CHEM 3523	Physical Chemistry II	3
	CHEM 4023	Instrumental Methods of Chemical Analysis	3	CHEM 4033	Instrumental Methods of Chemical Analysis Laboratory	3
		Beginning Language (Core I)	5	P SC 1113	American Federal Government (Core III)	3
		Western Culture (Core IV)	3		Beginning Language continued (Core I)	5
		CREDIT HOURS	15	CREDIT HOURS	15	
SENIOR	CHEM 3653	Introduction to Biochemistry	3		Social Science (Core III)	3
	CHEM 4333	Advanced Inorganic Chemistry-Periodic System	3		Arts & Humanities, upper-division, outside major (Gen. Ed.)	3
		Intermediate Language	3		Free Elective, upper-division (3000-4000-level)	3
		Arts & Humanities, upper-division, outside major (Gen. Ed.)	3		Free Elective, upper-division (3000-4000-level)	3
		Free Elective	3		Free Elective	3
		Free Elective	1		Free Elective	1
	CREDIT HOURS	16	CREDIT HOURS	16		

¹ CHEM 4913, CHEM 4923, and CHEM 4933 are not all offered every semester. Students should plan accordingly.