REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN BIOCHEMISTRY

COLLEGE OF ARTS AND SCIENCES

THE UNIVERSITY OF OKLAHOMA

For Students Entering the Oklahoma State System for Higher Education:

Summer 2012 through Spring 2013

Minimum Credit Hours and Grade Point Averages Required			
Total Hours —	**120**	Upper-Division Within Total	**48**
Major Hours —	**36**		

Grade Point Averages:

Overall & Major: Combined OU/Transfer - **2.00** OU - **2.00**

48 Upper-Division Hours REQUIRED

Biochemistry

B100

Bachelor of Science in Biochemistry

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

GENERAL EDUCATION AND COLLEGE REQUIREMENTS
Courses graded P/NP will not apply.

Courses for fulfillment of General Education and 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/enrollment/home/**.

University-Wide General Education (minimum 40 hours) and College of Arts and Sciences Requirements

Core Area I: Symbolic and Oral Communication (9-22 hours, 3-6 courses)

a. **English Composition** (6 hours, 2 courses)
   1. English 1113, Principles of English Composition
   2. English 1213, Principles of English Composition, **or** EXPO 1213, Expository Writing

b. **Foreign Language** (0-13 hours in the same language)
   The College of Arts and Sciences requirement ***cannot be met by high school coursework***.
   1. Beginning Course (0-5 hours) _____
   2. Beginning Course, continued (0-5 hours) _____
   ♦ 3. Intermediate Course (2000 level, 0-3 hours). _____
   One course at the intermediate level or demonstrated competency at that level.

c. **Mathematics** (3 hours, 1 course). _____

Core Area II: Natural Science (7 hours, 2 courses) including one laboratory component.

♦ 1. **Biological Science** _____
Chosen from the following approved General Education designators: BIOL, HES, MBIO, or PBIO.

♦ 2. **Physical Science** _____
Chosen from the following approved General Education designators: AGSC, ASTR, CHEM, GEOG, GEOL, GPHY, METR, or PHYS.

Core Area III: Social Science (6 hours, 2 courses)

1. Political Science 1113, American Federal Government
2. _____

Core Area IV: Humanities (18 hours, 6 courses)

a: **Understanding Artistic Forms** (3 hours, 1 course) _____

b. **Western Civilization and Culture** (6 hours, 2 courses)
   1. History 1483, U.S., 1492-1865, **or** History 1493, U.S., 1865-Present,
   2. _____ (excluding HIST 1483 and 1493)

c. **Non-Western Culture** (3 hours, 1 course):_____

d. **Additional Core IV Humanities courses** (6 upper-division hours, 2 courses at the 3000- 4000-level). Must be outside the major and selected from Understanding Artistic Forms, Western Civilization and Culture, or Non-Western Culture.

♦ 1. _____

♦ 2. _____

Core Area V: Senior Capstone Experience (3 hours, 1 course): _____

♦ College of Arts and Sciences Requirements: College requirements are not automatically fulfilled by a previous degree.

Some courses required for the major may also fulfill University General Education and/or College of Arts & Sciences Requirements

MAJOR 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.

CHEMISTRY		
1315	General Chemistry	(5)
1415	General Chemistry cont., **or**	(5)
1425	General Chemistry for Majors	
3064	Organic Chemistry I	4
3164	Organic Chemistry II	4
3005	Quantitative Analysis	5
3421	Physical Chemistry Lab	1
3423	Physical Chemistry I	3
3521	Physical Chemistry Lab	1
3523	Physical Chemistry II	3
3653	Intro. to Biochemistry	3
3753	Intro. to Biochemical Methods	3
4753	Principles of Biochemistry I	3
4913	Senior Thesis (Capstone) **or**	
4923	Senior Project (Capstone), **or**	
4933	Current Topics in Biochemistry (Capstone)	
_____		3
BIOL/MBIO/PBIO		
4843	Intro. to Molecular Biology	3

MAJOR SUPPORT REQUIREMENTS

MATH		
1823	Calculus & Analytic Geom. I, **or**	3-4
1914	Differential & Integral Calculus I	
2423	Calculus & Analytic Geom. II, or	
2924	Differential & Integral Calculus II	3-4
PHYSICS		
2414	Gen. Physics for Life Science	
and		
2424	Gen. Physics for Life Science	
or		
2514	Gen. Physics for Engr. & Science	
and		
2524	Gen. Physics for Engr. & Science	
_____		4
_____		4

Free Electives

Electives to bring total applicable hours to 120 including 48 upper-division hours.

INFORMATION CONCERNING GENERAL RULES, REGULATIONS AND MINIMUM REQUIREMENTS

TOTAL HOURS: A minimum of 120 semester hours acceptable toward graduation must be completed.

UPPER-DIVISION HOURS: A minimum of 48 upper-division semester hours acceptable toward graduation must be completed. OU courses numbered 3000 or above are upper-division. Transfer work is counted as lower-division or upper-division credit depending on the level at which it was offered at the institution where it was earned. Two-year college work is accepted only as lower-division credit.

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.

MAJOR WORK: A minimum of 30 semester hours must be earned in the major, including a minimum of 15 credit hours at the upper-division level.

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.
- Credits earned via examination are neither resident nor nonresident credit.

GRADE POINT AVERAGES: Students must earn a minimum overall 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.

SPECIAL DEGREES: Students may qualify for an Honors degree (cum Laude, Magna cum Laude, or Summa cum Laude) by completing specific requirements of the Honors College. A degree will be earned with Distinction if the student completes at least 60 semester hours at OU with at least a 3.60 combined retention GPA and OU retention GPA. A degree will be earned with Special Distinction if the student completes at least 60 semester hours at OU with at least a 3.90 combined retention GPA and OU retention GPA.

APPLICATION FOR GRADUATION: Students must apply for graduation during the term in which they complete their degree requirements in order to graduate in that term. Application forms are available from the College of Arts and Sciences Academic Services office, Ellison Hall, Room 124. The deadline for completion of all coursework to graduate in a particular term is the last day of classes in that term.

Refer to the OU General Catalog for more complete information.

Suggested Semester Plan of Study — Biochemistry - B100

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 College of Arts and Sciences and/or Department of Chemistry and Biochemistry academic advisers to verify that courses selected each semester fulfill the recommended plan and satisfy university, College of Arts and Sciences, and Biochemistry major requirements.

Year	FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
FRESHMAN	CHEM 1315, General Chemistry	5	CHEM 1415, General Chemistry cont.	5
	ENGL 1113, Principles of English Composition (Core I)	3	ENGL 1213, Principles of English Composition (Core I), **or**	3
	MATH 1823, Calculus & Analytic Geometry I (Core I), **or**	3-4	EXPO 1213, Expository Writing (Core I)	
	MATH 1914, Differential & Integral Calculus		MATH 2423, Calculus & Analytic Geometry II, **or**	3-4
			MATH 2924, Differential & Integral Calculus II	
	Social Science (Core III)	3	Understanding Artistic Forms (Core IV)	3
	TOTAL CREDIT HOURS	**14-15**	**TOTAL CREDIT HOURS**	**14-15**
SOPHOMORE	CHEM 3064, Organic Chemistry I	4	CHEM 3005, Quantitative Analysis	5
	PHYS 2514, Gen. Physics for Engineering & Science Majors, **or**	4	CHEM 3164, Organic Chemistry II	4
	2414, General Physics for Life Science Oriented Majors		PHYS 2524, Gen. Physics for Engineering & Science Majors, **or**	4
	PHYS 1311, Physics I Lab	1	2424, General Physics for Life Science Oriented Majors	
	Biological Science (Core II)	4	PHYS 1321, Physics II Lab	1
	HIST 1483, United States 1492-1865, **or**	3	Non-Western Culture (Core IV)	3
	1493, United States 1865-Present (Core IV)			
	TOTAL CREDIT HOURS	**16**	**TOTAL CREDIT HOURS**	**17**
JUNIOR	CHEM 3421, Physical Chemistry Lab	1	CHEM 3521, Physical Chemistry Lab	1
	CHEM 3423, Physical Chemistry I	3	CHEM 3523, Physical Chemistry II	3
	CHEM 3653, Intro. to Biochemistry	3	CHEM 3753, Intro. to Biochemical Methods	3
	Western Civilization & Culture (Core IV)	3	P SC 1113, American Federal Government (Core III)	3
	Beginning Foreign Language (Core I)	5	Beginning Foreign Language continued (Core I)	5
	TOTAL CREDIT HOURS	**15**	**TOTAL CREDIT HOURS**	**15**
SENIOR	§CHEM 4913, Senior Thesis (Capstone), **or**	3	CHEM 4753, Principles of Biochemistry I	3
	§CHEM 4933, Current Topics in Biochemistry (Capstone) (spring-only course)		Humanities, upper-division, outside major (Gen. Ed.)	3
			Free Elective, upper-division (3000-4000-level)	3
	MBIO 4843, Intro. to Molecular Biology	3	Free Elective	3
	Humanities, upper-division, outside major (Gen. Ed.)	3	Free Elective	2
	Free Elective, upper-division (3000-4000-level)	3		
	Intermediate Foreign Language	3		
	TOTAL CREDIT HOURS	**15**	**TOTAL CREDIT HOURS**	**14**

§ CHEM 4913 and 4933 are not all offered every semester. Students should plan their capstone experience accordingly.

Bachelor's degrees require a minimum of 48 hours of upper-division (3000-4000) coursework.
This plan of study should not be used in lieu of academic advisement.

Students who transfer from other institutions (particularly community colleges) must verify credit hour and course requirements with their college academic counselor, ELLH 124, 325-4411, **http://ou.edu/cas**.
Please make an appointment for a degree check with your college academic counselor once you have earned 90 hours. Appointments may be scheduled at **https://iadvise.ou.edu/**.