Requirements for the Bachelor of Science
College of Arts and Sciences
The University of Oklahoma

For Students Entering the Oklahoma State System for Higher Education:
Summer 2011 through Spring 2012

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

Major Requirements
Major Support Requirements

Minimum Credit Hours and Grade Point Averages Required

<table>
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<tr>
<th>Total Hours —</th>
<th>120</th>
<th>Upper-Division Within Total</th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Hours —</td>
<td>40-42</td>
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</tbody>
</table>

Grade Point Averages:

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

48 Upper-Division Hours REQUIRED

General Education and College Requirements

Courses 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)
- 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

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, BOT, CHEM, GEOSC, GEOG, GEOL, PHYS, or ZOO.
- 2 Physical Science
  Chosen from the following approved General Education designators: ACSC, ASTR, CHEM, GEOC, GEOL, GPHYS, or PHYS.

Core Area III: Social Science (6 hours, 2 courses)
- Political Science 1113, American Federal Government
- Political Science 1114

Core Area IV: Humanities (18 hours, 6 courses)
- Understanding Artistic Forms (3 hours, 1 course)
- 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)
- Non-Western Culture (3 hours, 1 course):_________________________
- 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.

Computer Literacy Requirement — Students must demonstrate computer proficiency which includes the competent use of a variety of software and networking applications. This requirement may be satisfied by:
- 1. A high school computer science course that meets curricular requirement; or
- 2. Completion of a college-level course that requires competent use of computing; or

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

Chemical Biosciences
Bachelor of Science

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

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

MAJOR REQUIREMENTS

CHEMISTRY

- 1373 General Chemistry
- 1374 General Chemistry cont.
- 1415 General Chemistry for Majors
- 1425 General Chemistry for Majors
- 3053 Organic Chemistry
- 3152 Organic Chemistry Lab
- 3153 Organic Chemistry
- 3451 Basic Physical Chemistry Lab
- 3453 Basic Physical Chemistry
- 3653 Introduction to Biochemistry
- 3753 Intro. to Biochemical Methods
- 4913 Senior Thesis (Capstone), or
- 4923 Senior Project (Capstone), or
- 4933 Current Topics in Biochemistry (Capstone)

BIOLOGICAL SCIENCES

- ZOO 1124, Introductory Biology
- MBIO 3812, Fund. of Microbiology Lab
- MBIO 3813, Fund. of Microbiology
- BOT/MBIO/ZOO 4843, Intro. to Molecular Biology

A minimum of four hours chosen from the following ZOO lecture/lab combinations:
- 3101 Princ. of Physiology Lab, and 3103 Princ. of Physiology
- 3201 Animal Development Lab, and 3203 Animal Development
- 3333 Genetics, and 3342 Genetics Laboratory
- 4244 Animal Histology

A minimum of three hours from the following:

ZOOLOGY
- 2124 Human Physiology
- 2234 Intro. to Human Anatomy
- 3113 Cell Biology (or BOT/MBIO 3113)
- 3214 Comp. Vertebrate Anatomy
- 4223 Cellular & Molecular Neurobiology

MICROBIOLOGY
- 4823 Pathogenic Microbiology & Immunology
- 4833 Basic Immunology

PHYSICS
- 1311 General Physics Lab I
- 1321 General Physics Lab II

MATH
- 1823 Calculus & Analytic Geom. I
- 1914 Differential & Integral Calculus I

Minimum Credit Hours and Grade Point Averages Required

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

48 Upper-Division Hours REQUIRED
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. OUT 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 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 — Chemical Biosciences - B155

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 checklist for official requirements. Students must consult with 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 Chemical Biosciences major requirements.

<table>
<thead>
<tr>
<th>Year</th>
<th>FIRST SEMESTER</th>
<th>Hours</th>
<th>SECOND SEMESTER</th>
<th>Hours</th>
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<td>FRESHMAN</td>
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<td>CHEM 1315, General Chemistry</td>
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<td>CHEM 1415, General Chemistry cont.</td>
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<td>ENGL 1113, Principles of English Composition (Core I)</td>
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<td>MATH 1823, Calculus &amp; Analytic Geometry I (Core II), or</td>
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<td>EXPO 1213, Expository Writing (Core I)</td>
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<td>PHYS 2514, Gen. Physics for Engineering &amp; Science Majors, or</td>
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<td>Social Science (Core III)</td>
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<td>PHYS 2414, General Physics for Life Science Oriented Majors</td>
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<td></td>
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<td>PHYS 1311, Physics I Lab</td>
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<td>Understanding Artistic Forms (Core IV)</td>
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<td>CHEM 3053, Organic Chemistry</td>
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<td>CHEM 3152, Organic Chemistry Lab</td>
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<td>PHYS 2524, Gen. Physics for Engineering &amp; Science Majors, or</td>
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<td>CHEM 3153, Organic Chemistry</td>
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<td>2424, General Physics for Life Science Oriented Majors</td>
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<td>MBIO 3813, Fundamentals of Microbiology</td>
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<td>Non-Western Culture (Core IV)</td>
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<td>ZOO 3342, Genetics Laboratory</td>
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<td>$CHEM4913, Current Topics in Biochemistry (Capstone)</td>
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<td>Humanities, upper-division, outside major (Gen. Ed.)</td>
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<td>TOTAL CREDIT HOURS 15</td>
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*If deficient in computer literacy, contact your college academic counselor in the Helson Academic Services Center, ELLH 124, 325-4411, for approved courses.
§ CHEM 4913, 4923, 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/.