

BIOLOGY: PRE-MEDICAL SCIENCES, BS

Degree Requirements

Requirements for Students Matriculating in or before Academic Year 2021-2022. Learn more about University Academic Regulation 3.1 (<http://catalog.okstate.edu/university-academic-regulations/#matriculation>).

Minimum Overall Grade Point Average: 2.00

Total Hours: 120

Code	Title	Hours
General Education Requirements		
<i>English Composition</i>		
See Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations/#english-composition)		
ENGL 1113	Composition I	3
or ENGL 1313	Critical Analysis and Writing I	
ENGL 1213	Composition II	3
or ENGL 1413	Critical Analysis and Writing II	
or ENGL 3323	Technical Writing	
<i>American History & Government</i>		
HIST 1103	Survey of American History	3
or HIST 1483	American History to 1865 (H)	
or HIST 1493	American History Since 1865 (DH)	
POLS 1113	American Government	3
<i>Analytical & Quantitative Thought (A)</i>		
MATH 1813	Preparation for Calculus (A) (or higher) ¹	3
or MATH 1613	Trigonometry (A)	
STAT 4013	Statistical Methods I (A) ¹	3
or STAT 2013	Elementary Statistics (A)	
<i>Humanities (H)</i>		
Courses designated (H)		6
<i>Natural Sciences (N)</i>		
Must include one Laboratory Science (L) course.		
PHYS 1114	College Physics I (LN) ¹	4
or PHYS 2014	University Physics I (LN)	
PHYS 1214	College Physics II (LN) ¹	4
or PHYS 2114	University Physics II (LN)	
<i>Social & Behavioral Sciences (S)</i>		
Course designated (S)		3
<i>Additional General Education</i>		
Courses designated (A), (H), (N), or (S)		6
Hours Subtotal		41
Diversity (D) & International Dimension (I)		
May be completed in any part of the degree plan.		
At least one Diversity (D) course		
At least one International Dimension (I) course		
College/Departmental Requirements		
<i>First Year Seminar</i>		
(Transfer students with 15 hours exempt)		1

<i>Arts & Humanities</i>		
(See note 2.a.)		3
<i>Natural & Mathematical Sciences</i>		
CHEM 1314	Chemistry I (LN)	4
CHEM 1515	Chemistry II (LN)	5
Foreign Languages		
(See note 3.)		0
0-6 hours		
<i>Upper-Division General Education</i>		
6 hours outside major department		
(See note 2.c.)		
Hours Subtotal		13
Major Requirements ²		
Minimum GPA 2.50 in Major Requirements OR minimum grade of "C" in each course.		
<i>Core Courses:</i>		
BIOL 1114	Introductory Biology (LN)	4
BIOL 1604	Animal Biology	4
BIOL 3023	General Genetics ²	3
BIOL 3034	General Ecology	4
BIOL 4133	Evolution ²	3
MICR 2123	Introduction to Microbiology	3
MICR 2132	Introduction to Microbiology Laboratory	2
MICR 3033	Cell and Molecular Biology	3
PBIO 1404	Plant Biology (LN)	4
6 hours upper-division coursework from BIOL, MICR, PBIO (excluding general education courses)		6
<i>Related Courses:</i>		
BIOL 3204	Physiology	4
CHEM 3053	Organic Chemistry I	3
CHEM 3112	Organic Chemistry Laboratory	2
CHEM 3153	Organic Chemistry II	3
Choose two of the following:		6
BIOC 3653	Survey of Biochemistry	
BIOL 3233	Human Reproduction	
BIOL 4024	Histology	
BIOL 4104	General Parasitology	
BIOL 4134	Embryology	
BIOL 4253	Pharmacology	
BIOL 4283	Endocrinology	
BIOL 4363	Principles of Toxicology	
MICR 3223	Advanced Microbiology	
MICR 3253	Immunology	
MICR 4423	Antibiotics and Antibiotic Resistance	
<i>Supplemental Courses:</i>		
3 hours upper-division coursework from the following (no more than 3 hours of general education in the natural sciences):		3
ENGL 3323	Technical Writing	
PHIL 3833	Biomedical Ethics (H)	
PSYC 3443	Abnormal Psychology (S)	
PSYC 3073	Neurobiological Psychology (N)	
PSYC 4263	Affective Neuroscience	
SOC 4153	Sociology of Health and Illness	

Or from BIOC, CHEM, ENVR, GEOG, GEOL, MATH, PHYS, and STAT	
Hours Subtotal	57
Electives	
Select 9 hours	9
MATH 1513 required for students who do not place directly into MATH 1813 (or MATH 1613).	
May need to include 6 hours of a foreign language (see note 3).	
May need to include 6 hours upper-division general education outside major department (see note 2.c.) and 4 additional upper-division hours.	
Hours Subtotal	9
Total Hours	120

- ¹ College and Departmental Requirements that may be used to meet General Education Requirements.
- ² With approval from the advisor and department head and a minimum GPA of 3.0, a maximum of 30 hours from an accredited doctoral health program may be substituted for electives or major requirements other than BIOL 3023 General Genetics and BIOL 4133 Evolution.

Other Requirements

- See the College of Arts and Sciences Requirements.
- Minimum GPA 2.00 in all BIOL, MICR & P BIO courses.
- **Upper-Division Credit:** Total hours must include at least 48 hours in courses numbered 3000 or above.
- **Hours in One Department:** For B.A. and B.S. degrees, no more than 54 hours in one department may be applied to degree requirements.

College of Arts and Sciences Requirements

1. General Education Requirements

No more than two courses (or eight hours) from the major department (<http://catalog.okstate.edu/college-arts-sciences-major-departments/>) may be used to meet General Education and College and Departmental Requirements. The General Education required English Composition, required U.S. History, required American Government, one required MATH or STAT course, and required foreign language for B.A. degrees do not count against the two-course maximum.

2. A&S College/Departmental Requirements

- a. Arts and Humanities are defined as any course carrying an (H) designation or courses from AMST, ART, DANC, ENGL (except ENGL 3323 Technical Writing) HIST, MUSI, PHIL (except PHIL 1313 Logic and Critical Thinking (A), PHIL 3003 Symbolic Logic (A) and PHIL 4003 Mathematical Logic and Computability), REL, TH, and foreign languages.
- b. Natural and Mathematical Sciences are defined as any course from the following prefixes: ASTR, BIOC, BIOL, CHEM, CS (except CS 4883 Social Issues in Computing), GEOL, MATH, MICR, P BIO, PHYS, and STAT; or courses from other departments that carry an (A) or (N) general education designation.
- c. The required six hours of upper-division General Education may not include courses from the student's major department. This requirement may be satisfied by courses also used to satisfy any part of a student's degree program (i.e., in General Education,

College Departmental Requirements, Major Requirements or Electives).

- d. Non-Western Studies Requirement for B.A. and B.F.A.; One 3-hour course in Non-Western Studies (N.W.). This requirement may be satisfied by courses also used to satisfy any part of a student's degree program (i.e., in General Education, College Departmental Requirements, Major Requirements or Electives).
 - e. The College of Arts & Sciences requires a minimum 2.0 GPA in all major requirements and a minimum 2.0 GPA in all major-prefix courses applied to the degree.
- ### 3. Foreign Language Proficiency
- a. The foreign language requirement for the B.A. may be satisfied by 9 hours college credit in the same language, which must include 3 hours at the 2000-level, or equivalent proficiency (e.g., passing an advanced standing examination; TOEFL exam; presenting a high school transcript which demonstrates the high school was primarily conducted in a language other than English; etc.). Computer Science courses may not be used to satisfy this requirement. Currently Arabic and Mvskoke are not offered at the 2000-level at OSU.
 - b. The foreign language requirement for the B.S., B.M. and B.F.A. may be satisfied by presenting a high school transcript which demonstrates two years of study of a single foreign language (passing grades at second-year level of study). It may also be satisfied by 6 hours college credit in the same language, which must include language courses 1713 and 1813, or equivalent proficiency (e.g., passing an advanced standing examination; TOEFL exam; presenting a high school transcript which demonstrates the high school was primarily conducted in a language other than English; etc.). Computer Science courses may not be used to satisfy this requirement.
 - c. In addition to a. and b., students pursuing teacher certification must meet novice-high foreign language proficiency by presenting a high school transcript which demonstrates two years of study of a single foreign language with no grade below B. Or, students may complete 3 hours college credit in a single language with no grade below C (or pass an advanced standing examination, College Level Examination Program (CLEP) exam, or Oral Proficiency Interview developed by the American Council on the Teaching of Foreign Languages, equivalent to 3 hours of college credit.) Or, students may meet the requirement by transfer of documentation of meeting the foreign language competency from one of the teacher education programs in the State of Oklahoma approved by the Oklahoma State Regents for Higher Education.
- ### 4. Exclusions
- a. Courses used to satisfy the General Education English Composition, U.S. History, American Government, and Mathematics or Statistics requirements will not count toward the 54-hour maximum allowed from one department.
 - b. Courses with ATHL or LEIS prefixes and leisure activity courses may not be used for degree credit.
- ### 5. Teacher Certification
- Students can satisfy the requirements for secondary schools teaching certification while earning a B.A. or B.S. in the College of Arts & Sciences. Those interested should see their Arts and Sciences advisor and the OSU Professional Education Unit in room 325 Willard.

Additional State/OSU Requirements

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.
- Degrees that follow this plan must be completed by the end of Summer 2027.

Example Plan of Study Finish in Four Plan of Study

The plan below is an example of how students can successfully complete degree requirements in four years. This suggested class schedule plan may be used as a guide and can be adjusted based on individual needs. Students are required to meet with an academic advisor prior to enrollment each semester to plan their class schedule, and students are ultimately responsible for completing all degree requirements.

Course	Title	Hours
Freshman		
Fall		
A&S 1111	A&S First Year Seminar	1
ENGL 1113	Composition I	3
MATH 1813	Preparation for Calculus (A)	3
CHEM 1314	Chemistry I (LN)	4
UNIV 2511	Introduction to Health Careers (Suggested)	1
General Education course		3
Hours		15
Spring		
ENGL 1213	Composition II	3
BIOL 1114	Introductory Biology (LN)	4
CHEM 1515	Chemistry II (LN)	5
STAT 2013 or STAT 4013	Elementary Statistics (A) or Statistical Methods I (A)	3
Hours		15
Sophomore		
Fall		
BIOL 1604	Animal Biology	4

CHEM 3053	Organic Chemistry I	3
MICR 2123	Introduction to Microbiology	3
General Education courses		6
Hours		16
Spring		
CHEM 3153	Organic Chemistry II	3
CHEM 3112	Organic Chemistry Laboratory	2
MICR 2132	Introduction to Microbiology Laboratory	2
General Education and Elective courses		7
UNIV 2611	Health Portfolio and Self-Development (Suggested)	1
Hours		15
Junior		
Fall		
BIOL 3204	Physiology	4
PHYS 1114	College Physics I (LN)	4
BIOC 3653	Survey of Biochemistry	3
MICR 3033	Cell and Molecular Biology	3
Elective courses (UNIV 3511 suggested)		1
Hours		15
Spring		
PHYS 1214	College Physics II (LN)	4
Major, College, and Elective courses		11
Hours		15
Senior		
Fall		
BIOL 3023	General Genetics	3
PBIO 1404	Plant Biology (LN)	4
Major, College, and Elective courses		9
Hours		16
Spring		
BIOL 3034	General Ecology	4
BIOL 4133	Evolution	3
Major and Elective courses		6
Hours		13
Total Hours		120

¹ Speak with academic advisor about saving General Education electives and Humanities (H) for Upper-division courses with International (I) and Diversity (D) dimensions.