# Biology: Pre-Medical Sciences, BS

## Degree Requirements

Requirements for Students Matriculating in or before Academic Year 2023-2024. 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
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**General Education Requirements**

#### English Composition
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 | 3
ENGL 1213 | Composition II | 3
or ENGL 1413 | Critical Analysis and Writing II | 3
or ENGL 3323 | Technical Writing | 3

#### American History & Government
HIST 1103 | Survey of American History | 3
or HIST 1483 | American History to 1865 (H) | 3
or HIST 1493 | American History Since 1865 (DH) | 3
POLS 1113 | American Government | 3

#### Analytical & Quantitative Thought (A)
MATH 1813 | Preparation for Calculus (A) (or higher) | 3
or STAT 4013 | Statistical Methods I (A) | 3
or STAT 2013 | Elementary Statistics (A) | 3
or STAT 3023 | Statistical Reasoning for Medical Applications (A) | 3

#### Humanities (H)
Courses designated (H) | 6

#### Natural Sciences (N)
Must include one Laboratory Science (L) course.
PHYS 1114 | College Physics I (LN) | 4
or PHYS 2014 | University Physics I (LN) | 4
PHYS 1214 | College Physics II (LN) | 4
or PHYS 2114 | University Physics II (LN) | 4

#### Social & Behavioral Sciences (S)
Course designated (S) | 3
**Additional General Education**
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**

#### First Year Seminar
(Transfer students with 15 hours exempt) | 1

#### Arts & Humanities
(See note 2.a.) | 3

#### Natural & Mathematical Sciences
CHEM 1314 | Chemistry I (LN) | 4
CHEM 1515 | Chemistry II (LN) | 5
Foreign Languages
(See note 3.) | 0

**Upper-Division General Education**
6 hours outside major department
(See note 2.c.)

**Hours Subtotal** | 13

#### Major Requirements
Minimum GPA 2.50 in Major Requirements OR minimum grade of "C" in each course.

**Core Courses:**
BIOL 1113 | Introductory Biology (N) | 4
or BIOL 1111 | and Introductory Biology Laboratory (LN) | 4
or 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

**Related Courses:**
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
BIOL 3653 | Survey of Biochemistry | 4
BIOL 3233 | Human Reproduction | 4
BIOL 4024 | Histology | 4
BIOL 4104 | General Parasitology | 4
BIOL 4134 | Embryology | 4
BIOL 4253 | Pharmacology | 4
BIOL 4283 | Endocrinology | 4
BIOL 4363 | Principles of Toxicology | 4
MICR 3223 | Advanced Microbiology | 4
MICR 3253 | Immunology | 4
MICR 4423 | Antibiotics and Antibiotic Resistance | 4

**Supplemental Courses:**
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 | 3
HLTH 3113 | Health Issues in Diverse Populations (D) | 3
HLTH 3603 | Understanding HIV (DS) | 3
HHP 4063 | Neuroanatomy | 3
his 3913 History of Medicine (H)
PHIL 3833 Biomedical Ethics (H)
PSYC 3443 Psychopathology (S)
PSYC 3073 Neurobiological Psychology (N)
PSYC 4263 Affective Neuroscience
SOC 4153 Sociology of Health and Illness
Or from BIOC, CHEM, ENVR, GEG, 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.

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 courses.
- Upper-Division Credit: Total hours must include at least 40 hours in courses numbered 3000 or above.

College of Arts and Sciences Requirements
1. Hours in One Department: For B.A. and B.S. degrees, no more than 54 hours in one department may be required to meet degree requirements. 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 required from one department.

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), PHI, 3003 Symbolic Logic (A) and PHIL 4003 Mathematical Logic and Computability), REL, TH, and foreign languages.

b. Logic (A) and PHIL 1313 Logic and Critical Thinking (A), PHIL 3003 Symbolic Logic (A) and PHIL 4003 Mathematical Logic and Computability), REL, TH, and foreign languages.

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.

4. Exclusions. Courses with ATHL or LEIS prefixes and leisure activity courses may not be used for degree credit.

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 2029.