

# PHYSIOLOGY, 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: 2.50**

**Total Hours: 120**

| Code  | Title  | Hours     |
|---|--|-----------|
| <b>General Education Requirements</b>   |  |           |
| <i>English Composition</i>  |  |           |
| See Academic Regulation 3.5 ( <a href="http://catalog.okstate.edu/university-academic-regulations/#english-composition">http://catalog.okstate.edu/university-academic-regulations/#english-composition</a> ) |  |           |
| ENGL 1113   | Composition I                                      | 3         |
| or ENGL 1313  | Critical Analysis and Writing I                    |           |
| Select one of the following:  |  | 3         |
| ENGL 1213   | Composition II                                     |           |
| ENGL 1413   | Critical Analysis and Writing II                   |           |
| ENGL 3323   | Technical Writing                                  |           |
| <i>American History &amp; 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 &amp; Quantitative Thought (A)</i>  |  |           |
| MATH 2144   | Calculus I (A) <sup>1</sup>                        | 4         |
| STAT 4013   | Statistical Methods I (A) <sup>1</sup>             | 3         |
| or STAT 2013  | Elementary Statistics (A)                          |           |
| or STAT 3023  | Statistical Reasoning for Medical Applications (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) <sup>1</sup>                | 4         |
| or PHYS 2014  | University Physics I (LN)                          |           |
| PHYS 1214   | College Physics II (LN) <sup>1</sup>               | 4         |
| or PHYS 2114  | University Physics II (LN)                         |           |
| <i>Social &amp; Behavioral Sciences (S)</i>   |  |           |
| Course designated (S)   |  | 3         |
| <i>Additional General Education</i>   |  |           |
| Courses designated (A), (H), (N), or (S)  |  | 6         |
| <b>Hours Subtotal</b>   |  | <b>42</b> |
| <b>Diversity (D) &amp; International Dimension (I)</b>  |  |           |
| May be completed in any part of the degree plan   |  |           |
| Select at least one Diversity (D) course  |  |           |
| Select at least one International Dimension (I) course  |  |           |
| <b>College/Departmental Requirements</b>  |  |           |
| <i>First Year Seminar</i>   |  |           |
| (Transfer students with 15 hours exempt)  |  | 1         |
| <i>Arts &amp; Humanities</i>  |  |           |

|  |  |           |
|--|--|-----------|
| See note 2.a.  |  | 3         |
| <i>Natural &amp; Mathematical Sciences</i>   |  |           |
| CHEM 1314  | Chemistry I (LN)                         | 4         |
| CHEM 1515  | Chemistry II (LN)                        | 5         |
| <i>Foreign Language</i>  |  |           |
| See note 3   |  | 0         |
| 0-6 hours  |  |           |
| <i>Upper-Division General Education</i>  |  |           |
| Select 6 hours outside major department  |  |           |
| See note 2.c.  |  |           |
| <b>Hours Subtotal</b>  |  | <b>13</b> |
| <b>Major Requirements <sup>2</sup></b>   |  |           |
| Minimum GPA 2.50 in Major Requirements with a minimum grade of "C" in each course. |  |           |
| <i>Core Courses</i>  |  |           |
| BIOC 3653  | Survey of Biochemistry                   | 3         |
| BIOL 1113  | Introductory Biology (N)                 | 4         |
| & BIOL 1111  | and Introductory Biology Laboratory (LN) |           |
| or BIOL 1114   | Introductory Biology (LN)                |           |
| BIOL 1604  | Animal Biology                           | 4         |
| BIOL 3023  | General Genetics <sup>2</sup>            | 3         |
| BIOL 3034  | General Ecology                          | 4         |
| BIOL 3114  | Vertebrate Zoology                       | 4         |
| BIOL 3204  | Physiology                               | 4         |
| BIOL 4133  | Evolution <sup>2</sup>                   | 3         |
| BIOL 4215  | Mammalian Physiology                     | 5         |
| BIOL 4223  | Mammalian Physiology Capstone Laboratory | 3         |
| CHEM 3053  | Organic Chemistry I                      | 3         |
| CHEM 3112  | Organic Chemistry Laboratory             | 2         |
| CHEM 3153  | Organic Chemistry II                     | 3         |
| MICR 2123  | Introduction to Microbiology             | 3         |
| MICR 2132  | Introduction to Microbiology Laboratory  | 2         |
| MICR 3033  | Cell and Molecular Biology               | 3         |
| <i>Related Courses</i>   |  |           |
| Select two courses, including at least one BIOL, from the following:               |  | 6         |
| ANSI 3543  | Principles of Animal Nutrition           |           |
| BIOL 4024  | Histology                                |           |
| BIOL 4073  | Principles of Neuroscience               |           |
| BIOL 4104  | General Parasitology                     |           |
| BIOL 4134  | Embryology                               |           |
| BIOL 4253  | Pharmacology                             |           |
| BIOL 4273  | Environmental Physiology                 |           |
| BIOL 4283  | Endocrinology                            |           |
| BIOL 4293  | Behavioral Neuroendocrinology            |           |
| BIOL 4303  | Organismal Ecotoxicology                 |           |
| BIOL 4363  | Principles of Toxicology                 |           |
| HHP 4063   | Neuroanatomy                             |           |
| MICR 3223  | Advanced Microbiology                    |           |
| MICR 3143  | Medical Mycology                         |           |
| MICR 3253  | Immunology                               |           |
| MICR 3553  | Foundations of Cancer                    |           |

|   |                                       |
|---|---------------------------------------|
| MICR 4123   | Virology                              |
| MICR 4423   | Antibiotics and Antibiotic Resistance |
| <b>Hours Subtotal</b>   | <b>59</b>                             |
| <b>Electives <sup>2</sup></b>   |                                       |
| Select 6 hours  | 6                                     |
| MATH 1513 and MATH 1813 required for students who do not place directly into MATH 2144.   |                                       |
| 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 2 additional upper-division hours |                                       |
| <b>Hours Subtotal</b>   | <b>6</b>                              |
| <b>Total Hours</b>  | <b>120</b>                            |

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.
- **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 (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, PBIO, PHYS, and STAT; or courses from other departments that carry an (A) or (N) general education designation.
  - c. Six upper-division hours are required from General Education or any CAS courses outside the student's major department (<http://catalog.okstate.edu/college-arts-sciences-major-departments/>). 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 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.** 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.

# 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     |
|--------------------------------------|--|-----------|
| <b>Freshman</b>                      |  |           |
| <b>Fall</b>                          |  |           |
| MATH 2144                            | Calculus I (A)   | 4         |
| CHEM 1314                            | Chemistry I (LN)   | 4         |
| General Education courses            |  | 7         |
| <b>Hours</b>                         |  | <b>15</b> |
| <b>Spring</b>                        |  |           |
| CHEM 1515                            | Chemistry II (LN)  | 5         |
| BIOL 1113<br>& BIOL 1111             | Introductory Biology (N)<br>and Introductory Biology Laboratory (LN) | 4         |
| General Education courses            |  | 6         |
| <b>Hours</b>                         |  | <b>15</b> |
| <b>Sophomore</b>                     |  |           |
| <b>Fall</b>                          |  |           |
| PHYS 1114                            | College Physics I (LN)   | 4         |
| BIOL 1604                            | Animal Biology   | 4         |
| STAT 4013                            | Statistical Methods I (A)  | 3         |
| General Education courses            |  | 4         |
| <b>Hours</b>                         |  | <b>15</b> |
| <b>Spring</b>                        |  |           |
| PHYS 1214                            | College Physics II (LN)  | 4         |
| MICR 2123                            | Introduction to Microbiology   | 3         |
| MICR 2132                            | Introduction to Microbiology Laboratory                              | 2         |
| CHEM 3053                            | Organic Chemistry I  | 3         |
| General Education courses            |  | 3         |
| <b>Hours</b>                         |  | <b>15</b> |
| <b>Junior</b>                        |  |           |
| <b>Fall</b>                          |  |           |
| BIOL 3204                            | Physiology   | 4         |
| CHEM 3153                            | Organic Chemistry II   | 3         |
| MICR 3033                            | Cell and Molecular Biology   | 3         |
| BIOL 3034                            | General Ecology  | 4         |
| Major, College, and Elective courses |  | 1         |
| <b>Hours</b>                         |  | <b>15</b> |
| <b>Spring</b>                        |  |           |
| BIOL 3023                            | General Genetics   | 3         |
| BIOL 4215                            | Mammalian Physiology   | 5         |
| CHEM 3112                            | Organic Chemistry Laboratory   | 2         |
| Major, College, and Elective courses |  | 5         |
| <b>Hours</b>                         |  | <b>15</b> |
| <b>Senior</b>                        |  |           |
| <b>Fall</b>                          |  |           |
| BIOC 3653                            | Survey of Biochemistry   | 3         |
| BIOL 3114                            | Vertebrate Zoology   | 4         |
| BIOL 4223                            | Mammalian Physiology Capstone Laboratory                             | 3         |
| Major, College, and Elective courses |  | 5         |
| <b>Hours</b>                         |  | <b>15</b> |
| <b>Spring</b>                        |  |           |
| BIOL 4133                            | Evolution  | 3         |

|                                      |            |
|--------------------------------------|------------|
| Major, College, and Elective courses | 12         |
| <b>Hours</b>                         | <b>15</b>  |
| <b>Total Hours</b>                   | <b>120</b> |

1

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