

# PHYSIOLOGY: PRE-MEDICAL SCIENCES, BS

## Degree Requirements

**Requirements for Students Matriculating in or before Academic Year 2024-2025.** 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>		
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
or BIOL 3214	Human Anatomy	
BIOL 3204	Physiology	4
BIOL 4133	Evolution <sup>2</sup>	3
BIOL 4215	Mammalian Physiology	5
BIOL 4223	Mammalian Physiology Capstone Laboratory	3
BIOC 3653	Survey of Biochemistry	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
BIOL 4024	Histology	
BIOL 4073	Principles of Neuroscience	
BIOL 4104	General Parasitology	
BIOL 4134	Embryology	
BIOL 4253	Pharmacology	
BIOL 4283	Endocrinology	
BIOL 4293	Behavioral Neuroendocrinology	
BIOL 4363	Principles of Toxicology	
HHP 4063		
MICR 3143	Medical Mycology	
MICR 3223	Advanced Microbiology	
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		
Recommended courses:		
PSYC 1113	Introductory Psychology (S)	
SOC 1113	Introductory Sociology (S)	
<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.

Additional requirements for professional school admission exist. View Admission Requirement Sheets at [prehealth.okstate.edu](http://prehealth.okstate.edu) (<http://prehealth.okstate.edu>).

## 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/](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 2030.

## 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>		
First Year Seminar		1
CHEM 1314	Chemistry I (LN)	4
MATH 2144	Calculus I (A)	4
UNIV 2511	Introduction to Health Careers (Suggested)	1
General Education courses		5
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
BIOL 1113 & BIOL 1111	Introductory Biology (N) and Introductory Biology Laboratory (LN)	4
CHEM 1515	Chemistry II (LN)	5
General Education courses		6
<b>Hours</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
BIOL 1604	Animal Biology	4
CHEM 3053	Organic Chemistry I	3
MICR 2123 & MICR 2132	Introduction to Microbiology and Introduction to Microbiology Laboratory	5
UNIV 2611	Health Portfolio and Self-Development (Suggested)	1
General Education or Elective courses		2
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CHEM 3153 & CHEM 3112	Organic Chemistry II and Organic Chemistry Laboratory	5
PHYS 1114	College Physics I (LN)	4
General Education courses		6
<b>Hours</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
BIOC 3653	Survey of Biochemistry	3
BIOL 3204	Physiology	4
PHYS 1214	College Physics II (LN)	4
Major or Elective courses		4
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
BIOL 4215	Mammalian Physiology	5
MICR 3033	Cell and Molecular Biology	3
UNIV 3511	Health Profession School Preparation (Suggested)	1
Major or Elective courses		6
<b>Hours</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
BIOL 3023	General Genetics	3
BIOL 4223	Mammalian Physiology Capstone Laboratory	3

Major or General Education courses		9
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
BIOL 3034	General Ecology	4
BIOL 3214	Human Anatomy	4
BIOL 4133	Evolution	3
Major or General Education courses		4
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120</b>