

MATHEMATICS: PRE-MEDICAL SCIENCES, BS

Degree Requirements

Requirements for Students Matriculating in or before Academic Year 2025-2026. 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
General Education Requirements		
<i>English Composition</i>		
See Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations/#english-composition)		
ENGL 1113 or ENGL 1313	Composition I Critical Analysis and Writing I	3
Select one of the following:		3
ENGL 1213 ENGL 1413 ENGL 3323	Composition II Critical Analysis and Writing II Technical Writing	
<i>American History & Government</i>		
HIST 1103 or HIST 1483 or HIST 1493	Survey of American History American History to 1865 (H) American History Since 1865 (DH)	3
POLS 1113	American Government	3
<i>Quantitative Thought & Logical Reasoning (Q)</i>		
MATH 2144	Calculus I (Q) ¹	4
<i>Understanding Humanities-Human Heritage & Cultures (H)</i>		
Courses designated (H)		6
<i>Reasoning in the Natural Sciences (N)</i>		
Must include one Laboratory-Based Inquiry (L) course		
CHEM 1314 CHEM 1515	Chemistry I (LN) Chemistry II (LN)	4 5
<i>Exploring Society & Human Behavior (S)</i>		
Courses designated (S)		3
<i>Diversity (D)</i>		
Courses designated (D)		3
<i>Global Cultural Competency (G)</i>		
Courses designated (G)		3
Additional General Education		
Additional general education credit hours may be required to meet the total 40-hour minimum of general education credit if courses carry more than one general education designation and can be used to meet multiple general education designation hour requirements above.		
Courses designated (Q), (H), (N), (S), (D), (G), or (F).		0
Hours Subtotal		40
College/Departmental Requirements		
UNIV 1111	First Year Seminar (or other approved first-year seminar course)	1

<i>Arts & Humanities</i>		3
See note 2.a.		
Recommend HIST 3913 or PHIL 3833		
<i>Natural & Mathematical Sciences</i>		
CS 1103 or CS 1113	Computer Programming (Q) Computer Science I (Q)	3
PHYS 1114	College Physics I (LN)	4
PHYS 1214	College Physics II (LN)	4
<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.		
Hours Subtotal		15
Major Requirements		
A minimum grade of "C" or "P" is required in each course.		
<i>Mathematics Core (39 hours)</i>		
MATH 2153	Calculus II (Q)	3
MATH 2163	Calculus III	3
MATH 2233	Differential Equations	3
MATH 3013	Linear Algebra (Q)	3
MATH 3613	Introduction to Abstract Algebra	3
Select 3 hours from the following:		3
MATH 3583	Introduction to Mathematical Modeling	
MATH 3933	Introduction to Mathematical Research	
MATH 4423	Geometry and Algorithms in Three-Dimensional Modeling	
Select 3 hours from the following:		3
MATH 4023	Introduction to Analysis	
MATH 4263	Introduction to Partial Differential Equations	
MATH 4513	Introduction to Numerical Analysis	
Select 9 hours from 4000-level MATH excluding 0-ending or Thesis courses		9
Select 3 hours from 4000-level MATH or STAT excluding 0-ending or Thesis courses		3
Select 3 hours from the following:		3
STAT 4013	Statistical Methods I (Q)	
STAT 4033	Engineering Statistics	
STAT 4053	Statistical Methods I for the Social Sciences (Q)	
Select 3 hours from the following:		3
4000-level MATH or STAT ²		
<i>Upper-Division CS or PHYS</i>		
CHEM 3433	Physical Chemistry I	
MICR 4203	Bioinformatics	
<i>Pre-Medical Sciences (18 hours)</i>		
<i>Biology</i>		
BIOL 1113 & BIOL 1111 or BIOL 1114	Introductory Biology (N) and Introductory Biology Laboratory (LN) Introductory Biology (LN)	4
<i>Physiology or Organic Chemistry</i>		

Select 8 hours from the following: 8

BIOL 3204 & BIOL 3214	Physiology and Human Anatomy	8
CHEM 3053 & CHEM 3153 & CHEM 3112	Organic Chemistry I and Organic Chemistry II and Organic Chemistry Laboratory	

Additional science courses

Select 6 hours from the following, with 3 hours upper-division: 6

BIOC 3653	Survey of Biochemistry	
BIOL 3023	General Genetics	
BIOL 1604	Animal Biology	
BIOL 3233	Human Reproduction	
MICR 2123	Introduction to Microbiology	
MICR 2132	Introduction to Microbiology Laboratory	
MICR 3033	Cell and Molecular Biology	
MICR 3223	Advanced Microbiology	
MICR 3253	Immunology	
NSCI 2013	Principles of Human Nutrition (N)	
PSYC 2583	Developmental Psychology (S)	
PSYC 3443	Psychopathology (S)	

Hours Subtotal 57

Electives

Select 8 hours 8

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.)

MATH 1513 and MATH 1813 required for students who do not place directly into MATH 2144.

Strongly recommended:

PSYC 1113	Introductory Psychology (S)	
SOC 1113	Introductory Sociology (S)	

Additional requirements for professional school admission exist. View the Admission Requirement Sheets at <http://preprofessional.okstate.edu>

Hours Subtotal 8

Total Hours 120

1

College and Departmental Requirements that may be used to meet General Education Requirements.

2

STAT 4023 Statistical Methods II, STAT 4043 Applied Regression Analysis or STAT 4063 Statistical Methods II for the Social Sciences recommended.

Other Requirements

- See the College of Arts and Sciences Requirements.
- Minimum 2.50 GPA in all required MATH 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 (Q), PHIL 3003 Symbolic Logic (Q) 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 and 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 2031.