

# MATHEMATICS: SECONDARY TEACHER CERTIFICATION, 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>1,2</sup>	4
CS 1103	Computer Programming (A) <sup>1,2</sup>	3
or CS 1113	Computer Science I (A)	
<i>Humanities (H)</i>		
Course designated (H)		6
<i>Natural Sciences (N)</i>		
Must include one Laboratory Science (L) course		
PHYS 2014	University Physics I (LN) <sup>1</sup>	4
or PHYS 1114	College Physics I (LN)	
PHYS 2114	University Physics II (LN) <sup>1</sup>	4
or PHYS 1214	College 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)		4
<b>Hours Subtotal</b>		<b>40</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 (SPED 3202)		
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

### Arts & Humanities

May need to be Gen Ed (I) designation 3

See note 2.a.

### Natural & Mathematical Sciences

MATH 2153 Calculus II (A) <sup>2</sup> 3

MATH 2163 Calculus III <sup>2</sup> 3

STAT 4013 Statistical Methods I (A) <sup>2</sup> 3

or STAT 4053 Statistical Methods I for the Social Sciences (A)

### Foreign Language

See note 3 0

0-6 hours

### Upper-Division General Education

Select 6 hours outside major department

See note 2.c.

**Hours Subtotal 13**

### Major Requirements

#### Mathematics Core

Minimum GPA 2.50 and minimum grade of "C" or "P" for courses in Mathematics core and those denoted with <sup>1,2</sup>

MATH 2233 Differential Equations 3

MATH 3013 Linear Algebra (A) 3

MATH 3613 Introduction to Abstract Algebra 3

MATH 3303 Advanced Perspectives on Secondary Mathematics 3

MATH 3933 Introduction to Mathematical Research 3

MATH 4023 Introduction to Analysis 3

MATH 4403 Geometry 3

MATH 4663 Combinatorics 3

Select 3 hours of 4000-level MATH or STAT 4203 or CS 3653, excluding 0-ending or Thesis courses. MATH 4033 recommended. 3

Select 3 hours of 4000-level MATH or STAT or upper division CS or PHYS 3

#### Secondary Education Professional Core

Minimum GPA 2.50 and minimum grade of "C" or "P" in each course.

SMED 1012 Inquiry Approaches to Teaching 2

SMED 3013 Knowing and Learning in Mathematics and Science 3

SMED 4003 Teaching Fundamental Concepts of Mathematics <sup>3</sup> 3

SMED 4023 Problem-Based Learning in Mathematics and Science <sup>3</sup> 3

SMED 4053 Teaching Geometry in the Secondary School <sup>3</sup> 3

SMED 4723 Senior Seminar in Secondary Mathematics and Science Education <sup>3</sup> 3

SPED 3202 Educating Exceptional Learners 2

CIED 3313 Field Experience in the Secondary Schools 3

CIED 4133 Introduction to K-12 English Language Learners 3

CIED 4720 Internship in the Secondary Classroom <sup>3</sup> 6

**Hours Subtotal 61**

### Electives

Select 6 hours 6

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.

<b>Hours Subtotal</b>	<b>6</b>
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<b>Total Hours</b>	<b>120</b>
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1

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

2

Minimum GPA 2.50 and minimum grade of "C" or "P" for courses in Mathematics core and those denoted with <sup>2</sup>.

3

Full admission to Professional Education is required.

## 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 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.

1

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

Course	Title	Hours
<b>Freshman</b>		
<b>Fall</b>		
First Year Seminar		1
ENGL 1113	Composition I	3
MATH 2144	Calculus I (A)	4
SMED 1012	Inquiry Approaches to Teaching	2
General Education/Elective		6
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
ENGL 1213	Composition II	3
MATH 2153	Calculus II (A)	3
General Education/Elective		9
<b>Hours</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
MATH 2163	Calculus III	3
MATH 3013	Linear Algebra (A)	3
PHYS 1114 or PHYS 2014	College Physics I (LN) or University Physics I (LN)	4
General Education/College/Department/Concentration		6
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
MATH 2233	Differential Equations	3
MATH 3613	Introduction to Abstract Algebra	3
PHYS 1214 or PHYS 2114	College Physics II (LN) or University Physics II (LN)	4
SMED 3013	Knowing and Learning in Mathematics and Science	3
General Education/College/Department/Concentration		3
<b>Hours</b>		<b>16</b>
<b>Junior</b>		
<b>Fall</b>		
MATH 3303	Advanced Perspectives on Secondary Mathematics	3
MATH 4033	History of Mathematics (Recommended)	3
CIED 3313	Field Experience in the Secondary Schools	3
General Education/College/Departmental/Major		9
<b>Hours</b>		<b>18</b>
<b>Spring</b>		
MATH 3933	Introduction to Mathematical Research	3
MATH 4663	Combinatorics	3
SMED 4003	Teaching Fundamental Concepts of Mathematics	3
General Education/College/Departmental/Major		6
<b>Hours</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
MATH 4403	Geometry	3
MATH 4023	Introduction to Analysis	3
SMED 4053	Teaching Geometry in the Secondary School	3
SMED 4023	Problem-Based Learning in Mathematics and Science	3
General Education/College/Departmental/Major		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CIED 4720	Internship in the Secondary Classroom	6
SMED 4723	Senior Seminar in Secondary Mathematics and Science Education	3
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>120</b>