# Mathematics: Secondary Teacher Certification, BS

## Requirements for Students Matriculating in or before Academic Year 2017-2018

Learn more about University Academic Regulation 3.1 ([http://catalog.okstate.edu/university-academic-regulations/#matriculation](http://catalog.okstate.edu/university-academic-regulations/#matriculation)).

**Minimum Overall Grade Point Average:** 2.50

**Total Hours:** 120

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td><strong>General Education Requirements</strong></td>
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<tr>
<td><strong>English Composition</strong></td>
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<td>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>)</td>
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<tr>
<td>ENGL 1113</td>
<td>Composition I</td>
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<tr>
<td>or ENGL 1313</td>
<td>Critical Analysis and Writing I</td>
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<tr>
<td>ENGL 1213</td>
<td>Composition II</td>
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<tr>
<td>ENGL 1413</td>
<td>Critical Analysis and Writing II</td>
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<tr>
<td>ENGL 3323</td>
<td>Technical Writing</td>
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</tr>
<tr>
<td><strong>American History &amp; Government</strong></td>
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<tr>
<td>HIST 1103</td>
<td>Survey of American History</td>
<td>3</td>
</tr>
<tr>
<td>POLS 1113</td>
<td>American Government</td>
<td>3</td>
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<tr>
<td><strong>Analytical &amp; Quantitative Thought (A)</strong></td>
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<tr>
<td>MATH 2144</td>
<td>Calculus I (A)</td>
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<tr>
<td>CS 1113</td>
<td>Computer Science I (A)</td>
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<tr>
<td><strong>Humanities (H)</strong></td>
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<tr>
<td>PHIL 3743</td>
<td>Patterns in Science: Historical and Value Dimensions of Western Science (H)</td>
<td>3</td>
</tr>
<tr>
<td>or PHIL 3933</td>
<td>Creation and Evolution (H)</td>
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<tr>
<td>Course designated (H)</td>
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<tr>
<td><strong>Natural Sciences (N)</strong></td>
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<tr>
<td>Must include one Laboratory Science (L) course</td>
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<tr>
<td>PHYS 1114</td>
<td>General Physics (LN)</td>
<td>4</td>
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<tr>
<td>or PHYS 2014</td>
<td>General Physics (LN)</td>
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<tr>
<td>PHYS 2114</td>
<td>General Physics (LN)</td>
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<tr>
<td>or PHYS 1214</td>
<td>General Physics (LN)</td>
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<tr>
<td><strong>Social &amp; Behavioral Sciences (S)</strong></td>
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<td>Course designated (S)</td>
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<tr>
<td><strong>Additional General Education</strong></td>
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<td>Courses designated (A), (H), (N), or (S)</td>
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<td><strong>Hours Subtotal</strong></td>
<td>40</td>
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<td><strong>Diversity (D) &amp; International Dimension (I)</strong></td>
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<td>May be completed in any part of the degree plan</td>
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<td>Select at least one Diversity (D) course</td>
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<tr>
<td>Select at least one International Dimension (I) course</td>
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<tr>
<td><strong>College/Departmental Requirements</strong></td>
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<tr>
<td><strong>Orientation</strong></td>
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<tr>
<td>A&amp;S 1111</td>
<td>A&amp;S First Year Seminar (transfer students with 15 hours exempt)</td>
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<tr>
<td><strong>Arts &amp; Humanities</strong></td>
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<td>May need to be Gen Ed (I) designation</td>
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<tr>
<td><strong>Natural &amp; Mathematical Sciences</strong></td>
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<tr>
<td>MATH 2153</td>
<td>Calculus II (A)</td>
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<td>MATH 2163</td>
<td>Calculus III</td>
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<tr>
<td>STAT 4013</td>
<td>Statistical Methods I (A)</td>
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<td>or STAT 4053</td>
<td>Statistical Methods I for the Social Sciences (A)</td>
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<tr>
<td><strong>Foreign Language</strong></td>
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<td>See note 3</td>
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<tr>
<td><strong>Upper-Division General Education</strong></td>
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<tr>
<td>Select 6 hours outside major department</td>
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<td><strong>Major Requirements</strong></td>
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<td><strong>Mathematics Core</strong></td>
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<td>Minimum GPA 2.50 and minimum grade of &quot;C&quot; or &quot;P&quot; for courses in Mathematics core and those denoted with 1, 2</td>
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<tr>
<td>MATH 2233</td>
<td>Differential Equations</td>
<td>3</td>
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<tr>
<td>MATH 3013</td>
<td>Linear Algebra</td>
<td>3</td>
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<tr>
<td>MATH 3613</td>
<td>Introduction to Abstract Algebra</td>
<td>3</td>
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<tr>
<td>MATH 3303</td>
<td>Advanced Perspectives on Functions and Modeling for Secondary Teachers</td>
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<td>MATH 3933</td>
<td>Research Methods</td>
<td>3</td>
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<tr>
<td>MATH 4023</td>
<td>Introduction to Analysis</td>
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<tr>
<td>MATH 4033</td>
<td>History of Mathematics</td>
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<tr>
<td>MATH 4403</td>
<td>Geometry</td>
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<td>MATH 4663</td>
<td>Combinatorics</td>
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<td>Select one of the following:</td>
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<tr>
<td>MATH 4713</td>
<td>Number Theory</td>
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<tr>
<td>MATH 4753</td>
<td>Introduction to Cryptography</td>
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<tr>
<td>MATH 4813</td>
<td>Groups and Representations</td>
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<td>Select 3 hours of 4000-level MATH or STAT or upper division CS or PHYS</td>
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<td><strong>Secondary Education Professional Core</strong></td>
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<td>Minimum GPA 2.50 and minimum grade of &quot;C&quot; or &quot;P&quot; in each course.</td>
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<td>SMED 1011</td>
<td>Inquiry Approaches to Teaching - Step 1</td>
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<td>SMED 2011</td>
<td>Inquiry-Based Lesson Design-Step 2</td>
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<td>SMED 3013</td>
<td>Knowing and Learning in Mathematics and Science</td>
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<tr>
<td>SMED 4003</td>
<td>Teaching Fundamental Concepts of Mathematics</td>
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<td>SMED 4013</td>
<td>Classroom Interactions</td>
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<td>SMED 4023</td>
<td>Problem-Based Learning in Mathematics and Science</td>
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<tr>
<td>SMED 4053</td>
<td>Teaching Geometry in the Secondary School</td>
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<tr>
<td>SMED 4723</td>
<td>Senior Seminar in Secondary Mathematics and Science Education</td>
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<tr>
<td>SPED 3202</td>
<td>Educating Exceptional Learners (D)</td>
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<td>CIED 4720</td>
<td>Internship in the Secondary Classroom</td>
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<td><strong>Hours Subtotal</strong></td>
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<td><strong>Electives</strong></td>
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<td>Select 6 hours</td>
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<td><strong>Hours Subtotal</strong></td>
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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.)

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<thead>
<tr>
<th>Hours Subtotal</th>
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<tr>
<td>Total Hours</td>
<td>120</td>
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1. College and Departmental Requirements that may be used to meet Gen Ed Requirements.
2. Minimum GPA 2.50 and minimum grade of "C" or "P" for courses in Mathematics core and those denoted with "A".
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.
- **Hours in One Department**: Hours in one department in excess of 54 will be added to the minimum total of 120 required for graduation.

**College of Arts and Sciences Requirements**

1. **General Education Requirements**
   
   No more than two courses (or eight hours) from the major department may be used to meet General Education and College and Departmental Requirements. The General Education required English Composition, required U.S. History, required American Government, one required MATH or STAT course, and required foreign language for B.A. degrees do not count against the two-course maximum.

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, BIOL, BIOL, BOT, CHEM, CS (except CS 4883 Social Issues in Computing), GEOG, MATH, MICRO, PHYS, and STAT; or courses from other departments that carry an (A) or (N) general education designation.
   
   c. The required six hours of upper-division General Education may not include courses from the student's major department. 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 3-hour course in Non-Western Studies from:

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<th>Code</th>
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<th>Hours</th>
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<tr>
<td>AMIS 2013</td>
<td>Introduction to American Indian Studies (D)</td>
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<tr>
<td>AMIS 4013</td>
<td>American Indian Sovereignty (D)</td>
<td>3</td>
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<tr>
<td>ANTH 3443</td>
<td>Peoples of Mesoamerica (IS)</td>
<td>3</td>
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<td>ANTH 4223</td>
<td>The Aztec Empire (H)</td>
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<td>ART 3693</td>
<td>Survey of Asian Art (H)</td>
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<td>ART 3733</td>
<td>History of Latin American Art I</td>
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<tr>
<td>ART 4603</td>
<td>History of Ancient Egyptian Art</td>
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</table>
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.

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, which must include language courses 1713 and 1813, or equivalent proficiency (e.g., passing an advanced standing examination; completing a 2000-level course or higher in the language; 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

a. 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 allowed from one department.

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

5. Teacher Certification

Students can satisfy the requirements for secondary schools teaching certification while earning a B.A. or B.S. in the College of Arts & Sciences. Those interested should see their Arts and Sciences adviser and the OSU Professional Education Unit in room 325 Willard.

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 2023.