

# PHYSICS: SECONDARY TEACHER CERTIFICATION, 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>1,2</sup>	4
MATH 2153	Calculus II (A) <sup>1,2</sup>	3
<i>Humanities (H)</i>		
PHIL 3933	Creation and Evolution <sup>1</sup>	3
Course designated (H)		3
<i>Natural Sciences (N)</i>		
Must include one Laboratory Science (L) course		
CHEM 1314	Chemistry I (LN) <sup>1,2</sup>	4
PHYS 2014	University Physics I (LN) <sup>1,2</sup>	4
Select four hours from the following:		4
BIOL 1113	Introductory Biology (N)	
& BIOL 1111	and Introductory Biology Laboratory (LN) <sup>1,2</sup>	
BIOL 1114	Introductory Biology (LN) <sup>1,2</sup>	
<i>Social &amp; Behavioral Sciences (S)</i>		
Courses designated (S)		3
<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		
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

See note 2.a. 3

### Natural & Mathematical Sciences

CHEM 1515 Chemistry II (LN) <sup>2</sup> 5

PHYS 2114 University Physics II (LN) 4

### Foreign Language

0-6 hours. See note 3.

### Upper-Division General Education

Select 6 hours outside major department. See note 2.c.

**Hours Subtotal 13**

### Major Requirements

#### Physics Core

Minimum GPA 2.50 and minimum grade of "C" or "P"

PHYS 2203 University Physics III 3

PHYS 3013 Mechanics I 3

PHYS 3323 Modern Laboratory Methods I 3

PHYS 3513 Mathematical Physics 3

PHYS 3623 Modern Laboratory Methods II 3

PHYS 3713 Modern Physics 3

PHYS 4113 Electricity and Magnetism 3

MATH 2163 Calculus III 3

MATH 2233 Differential Equations 3

STAT 4013 Statistical Methods I (A) 3

#### Additional Requirements:

#### 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 4023 Problem-Based Learning in Mathematics and Science 3

SMED 4611 Authentic Research in the Science Classroom 1

SMED 4613 Teaching the Nature of Science Through an Inquiry Approach <sup>3</sup> 3

SMED 4713 Teaching and Learning Science 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 (D) 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 62**

### Electives

Select 5 hours 5

May need to include 6 hours of a foreign language (see note 3)

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

**Hours Subtotal 5**

**Total Hours 120**

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"

3

Full admission to Professional Education 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:** For B.A. and B.S. degrees, no more than 54 hours in one department may be applied to degree requirements.

## 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>		
BIOL 1113 & BIOL 1111	Introductory Biology (N) and Introductory Biology Laboratory (LN)	4

CHEM 1314	Chemistry I (LN)	4
MATH 2144	Calculus I (A)	4
SMED 1012	Inquiry Approaches to Teaching	2
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
CHEM 1515	Chemistry II (LN)	5
MATH 2153	Calculus II (A)	3
PHYS 2014	University Physics I (LN)	4
General Education courses		3
<b>Hours</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
MATH 2163	Calculus III	3
PHYS 2114	University Physics II (LN)	4
General Education courses		9
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
MATH 2233	Differential Equations	3
PHYS 2203	University Physics III	3
PHYS 3513	Mathematical Physics	3
SMED 3013	Knowing and Learning in Mathematics and Science	3
SPED 3202	Educating Exceptional Learners (D)	2
<b>Hours</b>		<b>14</b>
<b>Junior</b>		
<b>Fall</b>		
CIED 3313	Field Experience in the Secondary Schools	3
PHIL 3933	Creation and Evolution (August Pre-Session Only)	3
PHYS 3013	Mechanics I	3
PHYS 3323	Modern Laboratory Methods I	3
PHYS 3713	Modern Physics	3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CIED 4133	Introduction to K-12 English Language Learners	3
PHYS 3623	Modern Laboratory Methods II	3
SMED 4611	Authentic Research in the Science Classroom	1
SMED 4613	Teaching the Nature of Science Through an Inquiry Approach	3
Major, College, and Elective courses		6
<b>Hours</b>		<b>16</b>
<b>Senior</b>		
<b>Fall</b>		
PHYS 4113	Electricity and Magnetism	3
STAT 4013	Statistical Methods I (A)	3
SMED 4023	Problem-Based Learning in Mathematics and Science	3
SMED 4713	Teaching and Learning Science in the Secondary School	3
		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
Major, College, and Elective courses		6
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120</b>