

# PHYSICS EDUCATION

## Bachelor of Science in Education (BSED)

This is a guide based on the 2023-2024 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use Degree Works to monitor their individual progress.

### CURRICULUM CHECKLIST

"Critical Courses" are italicized and bold. Data shows that students who have completed this course in the first two years and have earned the noted grade are most likely to complete this program of study.

#### Education Courses- 47 Hours Required

A grade of 'C' or better is required in education courses, with the exception of ED280 which requires a grade of 'B' or better.

- \_\_\_ **ED280 Introduction to Education as a Profession (3)**
- \_\_\_ EF400 Student Teaching Seminar (1)
- \_\_\_ EX390 Psychology and Education of the Exceptional Child (3)
- \_\_\_ **PY222 Development of the Adolescent (3)**
- \_\_\_ SE307 Content Literacy Methods for Middle and High School (3)
- \_\_\_ SE320 Techniques of Teaching Science (3)
- \_\_\_ SE350 Pedagogy 1: Principles of Effective Teaching (3)
- \_\_\_ SE355 Field Experience II (3)
- \_\_\_ SE365 Pedagogy 2: Secondary School-Interdisciplinary Methods and Technology (4)
- \_\_\_ SE380 Advanced Field Experience (3)
- \_\_\_ SE385 Pedagogy 3: Advanced Methods of Middle and Secondary Teaching (3)
- \_\_\_ SE390 Instructional Interventions for Middle and Secondary Students with Special Literacy Needs (3)
- \_\_\_ SE465 Student Teaching (12)

#### Physics Education – 59-62 Hour Major - No Minor Required

##### Required Courses:

- \_\_\_ PH230/030 General Physics I (5)
- \_\_\_ PH231/031 General Physics II (5)
- \_\_\_ PH345 Experimental Methods I (3)
- \_\_\_ PH360 Modern Physics (3)
- \_\_\_ UI422 Scientific Reasoning (3)

##### Choose 3 Hours From:

- \_\_\_ BI332 General Ecology (3)
- \_\_\_ GO305 Environmental Geoscience (3)
- \_\_\_ UI360 Recycling & Waste Mgt (3)
- \_\_\_ UI372 Earthquakes & Society (3)

##### Choose 3 Hours From:

- \_\_\_ BS108 Biology for Living (3)
- \_\_\_ BS218 Biologic Science: A Process Approach (3)

##### Choose 5-7 hours\*:

- \_\_\_ CH181 Introductory Chemistry I (5)
- \_\_\_ **OR**
- \_\_\_ CH184/185 General Chemistry I and Lab (4)
- \_\_\_ **AND**
- \_\_\_ CH186 Foundations of Inorganic Chemistry (3)

##### Choose 3 Hours From:

- \_\_\_ GO110 Physical Geology (3)
- \_\_\_ GO320 Oceanography (3)
- \_\_\_ GO418 Meteorology (4)
- \_\_\_ UI318 Earth Science: A Process Approach (3)

##### Choose 3 hours at the 300-599 level:

- \_\_\_ EPxxx
- \_\_\_ PHxxx

##### Choose 9 Hours From:

- \_\_\_ CS101 Introduction to Computer Programming (3)
- \_\_\_ EP100 Introduction to Engineering (3)
- \_\_\_ EP240 Circuit Analysis I (3)
- \_\_\_ EP261 Engineering Mech: Statics (3)
- \_\_\_ EP262 Engineering Mech: Dynamics (3)
- \_\_\_ EP305 Digital & Analog System Design (3)
- \_\_\_ EP310 Microcontroller & Embedded Systems (3)
- \_\_\_ EP340 Electronic Circuits (3)
- \_\_\_ EP462 Materials Science (3)
- \_\_\_ PH328 Energy (3)
- \_\_\_ PH341 Optics (3)
- \_\_\_ PH370 Mechanics (3)
- \_\_\_ PH371 Electrodynamics (3)
- \_\_\_ PH400 Topics in Physics & Engineering (3)
- \_\_\_ PH473 Quantum Mechanics (3)
- \_\_\_ PH475/476 Literature of Physics (1-2)
- \_\_\_ PH478/479 Undergraduate Research (1-2)
- \_\_\_ PH490/491 Independent Study in Physics (1-2)
- \_\_\_ PH570 Mathematical Physics (3)

##### Additional Requirements:

- \_\_\_ EP405 Engineering in Science Education (1)
- \_\_\_ MA140 Analytic Geometry & Calculus I (5)
- \_\_\_ MA145 Analytic Geometry & Calculus II (4)
- \_\_\_ MA244 Analytic Geometry & Calculus III (4)

**General Education Requirements** – some requirements may be fulfilled by coursework in major program  
 Social and Behavioral Sciences (6); Constitution requirement (3); Written Communication (6); Oral Communication (3); Natural Sciences (7 hours, from two disciplines, one to include a lab); Mathematics (3); Humanities & Fine Arts (9 hours, from at least two disciplines);  
 Additional requirements 5 hours (to include UI100 for native students);  
 Civics examination

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
<b>FIRST YEAR</b>	UI100	1	BS218 or BS108	3
	CH181/CH081/001*	5	EN100	3
	CS177/Physics elective	3	MA145	4
	EP100	3	PH230/030	5
	<b>MA140</b>	<b>5</b>	General Education	3
	<b>Total</b>	<b>17</b>	<b>Total</b>	<b>18</b>
<b>SECOND YEAR</b>	MA244	4	<b>ED280</b>	<b>3</b>
	PH231/031	5	Environmental Science	3
	<b>PY222</b>	<b>3</b>	Physics Elective	3
	General Education	3	General Education	3
	General Education	3	General Education	3
	<b>Total</b>	<b>18</b>	<b>Total</b>	<b>18</b>
Milestone: Passing score MoGEA				
<b>THIRD YEAR</b>	EX390	3	EP405	1
	PH345	3	SE307	3
	PH360	3	SE355	3
	SE350	3	SE365	4
	Geoscience elective	3	UI422	3
	General Education	3	Physics Elective	3
	<b>Total</b>	<b>18</b>	<b>Total</b>	<b>17</b>
Milestone: Passing score Mo. Content Exam; GPA in major 3.0				
<b>FOURTH YEAR</b>	SE320	3	EF400	1
	SE380	3	SE465	12
	SE385	3		
	SE390	3		
	General Education	3		
	<b>Total</b>	<b>15</b>	<b>Total</b>	<b>13</b>
Milestone: Passing score Mo Content Exam, passing score on MEES, 3.0 GPA in Education and content courses.				

A "Milestone" signifies a significant stage for a student in the completion of a degree.

**Degree requirements for all students:** a minimum of 120 credit hours, completion of the General Education program, and completion of 39 senior division hours (300-599). Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

This program could lead to licensure or certification. However, Southeast's program either does not meet, or we cannot determine if it meets, the licensure or certification requirement in all states. Please consult our State Authorization page, Licensure tab, to determine information specific to your state: <https://semo.edu/online/student-resources/stateauth.html>.



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1/27/2023

# 2023-2024 degree map



**SAMPLE FOUR-YEAR PLAN**  
**SOUTHEAST MISSOURI**  
**STATE UNIVERSITY · 1873®**

CENTER FOR ACADEMIC ADVISING / [semo.edu/advising](https://semo.edu/advising)  
 OFFICE OF ADMISSIONS / (573) 651-2590 / [admissions@semo.edu](mailto:admissions@semo.edu)

# PHYSICS EDUCATION

## Bachelor of Science in Education (BSED)

### ADMISSION TO THE TEACHER PREPARATION PROGRAM

To be eligible for enrollment in the majority of courses offered by the Teacher Preparation Program and required for a teaching degree (BSE, BSFCSE, BME), students must be admitted to the Teacher Preparation Program (TPP). Applications can be found at <https://semo.edu/colleges-departments/education-health/educator-preparation/admission.html>. Students should apply for admission to the TPP upon having met the following entrance criteria:

1. 42 hours of coursework completed;
2. One of the following:
  - a. Composite/Superscore of 20 or higher on the ACT exam
  - b. Composite score of 1040 or higher on the SAT exam
  - c. Score of 220 or higher on the Paraprofessional exam
  - d. Passing score on the Missouri General Education Assessment (MoGEA)
  - e. Have a previous 4-year degree from an accredited college/university
3. The following course requirements met:
  - a. A minimum grade of 'C' in CF/PY120 The Child (Elementary, Early, and Exceptional) or PY222 Development of the Adolescent (Middle and Secondary)
  - b. A minimum grade of 'B' in ED280 Introduction to Education as a Profession or ME222 Principles of Teaching Music.
4. International Students must also meet the following requirements:
  - a. C1 (CEFR) level
  - b. IELTS minimum score of 7.0 or TOEFL minimum score of 95
  - c. Note: This policy is for non-United States citizens who are not native English speakers. Students from the United Kingdom, Canada, Australia, and New Zealand are exempt from English proficiency verification

### RETENTION IN THE TEACHER PREPARATION PROGRAM

After admission, students must continue to meet the following requirements for retention in the TPP:

1. Demonstrate continued eligibility for interaction with schoolchildren by completing an MSHP/FBI background check through the use of the MSHP/FBI background check system. (A current background check is required for participation in all field and clinical experiences.);
2. Pass all professional education courses with a minimum grade of 'C.' A minimum grade of 'C' must be obtained in all prerequisite courses before a student can be enrolled in subsequent coursework. Students who, after two attempts, have still not earned a minimum grade of 'C' in a particular professional education course will be removed from the Teacher Preparation Program.
3. Demonstrate behavior appropriate for teaching professionals. Appeals related to removal from the TPP can be found at [www.semo.edu/education-health/edu-prep/admission.html](http://www.semo.edu/education-health/edu-prep/admission.html)

**GRADUATION REQUIREMENT** - A final 3.0 GPA in both pedagogy and content coursework is required for graduation.

### TEACHER CERTIFICATION

Upon completion of Southeast's Teacher Preparation Program an individual is eligible to be recommended for a Missouri Teaching Certificate if the student has the following:

1. A final 3.0 GPA in both pedagogy and content coursework;
2. A passing score on the appropriate licensure exam(s) as required by the Missouri Department of Elementary and Secondary Education;
3. A passing score on the Teacher Candidate Instrument of the Missouri Educator Evaluation System;
4. MSHP/FBI background clearance from no earlier than one year prior to the date of the application for certification.

**ADDITIONAL NOTES:** Regardless of printed program requirements, any changes or additions mandated by the State of Missouri will become effective on the date cited by the regulations. Students transferring into education programs should be aware of the need to be eligible for admission to the teacher preparation program immediately upon transfer. They should contact the Candidate Status and Certification Officer well in advance of the time of transfer. It is especially important that transfer students in the College of Education make arrangements for having ACT and/or MoGEA scores transferred to the University.

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2023-2024 *degree map*

