The teaching of physics offers a unique career opportunity. Enthusiastic, innovative and well-prepared teachers are needed not only to prepare high school students for careers in science but also to provide all students with an appreciation of science and how it has benefited society. This is especially true in physics, the most fundamental of the physical sciences. Physics describes and explains not only what goes on in our immediate surroundings but also in the minute world of atoms and elementary particles and the vast world of stars and galaxies. Physics teachers can help provide the knowledge that students need to understand and appreciate the world in which they live, and to show the many scientific ideas upon which modern technology is built.

Physics Education students will...
- Obtain a deep understanding of the fundamental principles of physics and mathematics.
- Have the broad education necessary to understand the impact of physics and engineering concepts on everyday issues in a global, economic, environmental, and social context.
- Be well prepared, and certified, to teach high school physics in Missouri, and to communicate physics to the general public.

Career Planning
Career preparation is part of the mission of Southeast. 100% of programs offer our students an internship, study-abroad program, clinical opportunity, student teaching or research internship.

There is currently a shortage of qualified physics teachers at the secondary level for which there is no immediate solution. Thus, graduates should have no difficulty in obtaining teaching positions. In addition, many of the school districts have the need for qualified science teachers who can teach several different sciences (e.g. chemistry, physics, earth science and biology). The unified science option certifies teachers to teach any high school physics course, plus the first courses in high school biology, chemistry, and earth science.

The Office of Career Services in Academic Hall 057 can provide students with professional career counseling and coaching, resume critiques, practice interviews, job search strategies, career events, networking opportunities, and more.

| Demonstrated Career Proficiency is a Requirement of all Southeast Students |
|-----------------------------|-------------------------------------------------|
| CL001 First Semester        | Students connect academic career planning by completing an online career assessment |
| CL002 Second Semester       | Students learn more about resources available to enhance academic and career planning |
| CL003 Junior Year           | Students learn about continued career planning, job search strategies, and networking |
| CL004 Senior Year           | Students learn about resume development, professional communication, interviewing, and transitioning to the first job from college |

Employment Opportunities of Recent Graduates
- Physics Teacher
- General Science Teacher
- Chemistry Teacher
- Biology Teacher
- Earth Science Teacher
- Educational Administrator
- Science Supply Salesperson
- Textbook Sales Representative
- Laboratory Technician
- Hallsville High School, mathematics teacher
- Parkway West HS, physics teacher
- Cape Central HS, science teacher

Admission Requirements
- 42 course hours completed
- 2.75 cumulative GPA
- Missouri Educator Profile (MEP) results on file with the Office of the Associate Dean of the College of Education
- Score of 220 or higher on all sections of the Missouri General Education Assessment (MoGEA)
- The following course requirements met
  - A grade of C or above in PY222 Development of the Adolescent
  - A grade of B or above in ED280 Introduction to Education as a Profession

Additional Information
The state of Missouri has high expectations for future educators. Students matriculating into education programs must meet the following standards to be recommended for licensure following degree completion.

Students graduating spring 2017 or later must maintain a 3.0 GPA in both content and pedagogy courses. In addition students must pass the Missouri Content Assessment Exam and the Missouri Pre-Service Teacher Assessment for recommendation for licensure. Students must also fulfill other assessments such as the Missouri Educator Profile and be cleared through a FBI background check.

Special Options with Secondary Education
Southeast offers a Master of Arts in Secondary Education.

To learn more
Office of Admissions
(573) 651-2590
admissions@semo.edu
www.semo.edu

To explore the
College of Science, Technology and Agriculture online, visit
www.semo.edu/costa

For advising
Center for Academic Advising - North
(573) 651-5090
www.semo.edu/advising
advisingnorth@semo.edu
**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 Teaching (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 II (3)
- **SE365** Pedagogy 2: Secondary School-Interdisciplinary Methods and Technology (4)
- **SE380** Advanced Field (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 - 57-60 Hour Major - No Minor Required**

Required Courses:

- **EP 100** Physics & Engineering Concepts (1)
- **EP 405** Engineering in Science Education (1)
- **MA 140** Analytical Geometry & Calculus I (3)
- **MA 145** Analytical Geometry & Calculus II (4)
- **MA 244** Analytical Geometry & Calculus III (4)
- **PH 230/030** General Physics I (5)
- **PH 231/031** General Physics II (5)
- **PH 360** Modern Physics (3)
- **UI 330** Experimental Methods I (3)
- **UI 422** Scientific Reasoning (3)
- **CH 181** Introductory Chemistry I (5)
- **CH 185** General Chemistry (5)
  **AND**
- **CH186** Inorganic Chemistry (3)

Choose 3 Hours From:

- **BS 218** Biological Science: A Process Approach (3)
- **BS 332** General Ecology (3)
- **BS 305** Environmental Geoscience (3)
- **UI 360** Recycling & Waste Mgt (3)
- **UI 372** Earthquakes & Society (3)

Choose 6 Hours From:

- **EP 100** Physics & Engineering Concepts (1)
- **EP 405** Engineering in Science Education (1)
- **MA 140** Analytical Geometry & Calculus I (3)
- **MA 145** Analytical Geometry & Calculus II (4)
- **MA 244** Analytical Geometry & Calculus III (4)
- **PH 230/030** General Physics I (5)
- **PH 231/031** General Physics II (5)
- **PH 360** Modern Physics (3)
- **UI 330** Experimental Methods I (3)
- **UI 422** Scientific Reasoning (3)
- **CH 181** Introductory Chemistry I (5)
- **CH 185** General Chemistry (5)
  **AND**
- **CH186** Inorganic Chemistry (3)

Choose 3 Hours From:

- **BS 108** Biology for Living (3)
- **BS 218** Biological Science: A Process Approach (3)
- **BS 332** General Ecology (3)
- **BS 305** Environmental Geoscience (3)
- **UI 360** Recycling & Waste Mgt (3)
- **UI 372** Earthquakes & Society (3)

Choose 3 hours EP/PH prefix at the 300-599 level:

- **EP**
- **PH**

*Choose Chemistry option with advice of advisor*

**University Studies Requirements (not already listed above):**

- UI100 First Year Seminar, EN110 English Composition, Artistic Expression, Written Expression, Oral Expression, Literary Expression, Development of a Major Civilization, Economic Systems, Political Systems, Social Systems

If you have dual credit or transfer credit, please visit our transfer course equivalencies guide at semo.edu/transfercredit.

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**SAMPLE FOUR-YEAR PLAN**

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<td>EN100</td>
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<td>MA145</td>
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Milestone: Maintain 2.75 cumulative GPA

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<td>PH231/031</td>
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<td>Environmental Science</td>
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<td>PY222</td>
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<td>Written Expression</td>
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Milestone: Maintain 2.75 cumulative GPA, Passing score MoGEA, Complete MEP

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<th>Course #</th>
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Milestone: Passing score Mo Content Exam, MoPTA, 2.75 cumulative GPA, 3.0 GPA in Ed. courses, 3.0 GPA in 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 University Studies program, completion of 39 senior division hours (300-599), career proficiencies (CL001-004), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAPP) at the senior level. Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

Students have the option of adding another area of concentration or a minor to this degree.