The B.S.Ed. in Unified Science-Biology prepares students who will be certified in all areas of high school science. This degree is very desirable from the school district's point of view and is a necessity for teachers in very small districts where a single teacher may serve the entire high school. In larger districts teachers with unified science certification can be hired for more types of science positions. Southeast prepares highly qualified teachers ready for certification once all degree requirements and assessments are complete. Students have an exceptional program of professional preparation including multiple field experiences, theory and pedagogy courses. The major in biology and supporting sciences is well rounded helping teachers develop a strong foundation of knowledge. Science teachers are in high demand across most of the United States and particularly in Missouri. Because of this there are forgiveness programs for different types of Federal loans in return for teaching science in a high needs school district (most in Missouri). In addition, students may be eligible to participate in the TEACH grant program which can pay up to $16,000 in college costs over four years and has a similar loan forgiveness program. Be sure to visit the financial aid office for details.

Biology Education students will...
- have substantial and increasingly challenging experiences in schools before student teaching
- learn up-to-date techniques for teaching in the sciences
- know how to differentiate instruction so all students succeed
- develop a strong knowledge of biology
- be prepared to integrate technology in teaching

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.

98% of students who searched for teaching positions entered the field within two years of graduation.

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.

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

Employment Opportunities and Graduate Schools of Recent Graduates
- Graduate Schools:
  - Southeast Missouri State – MNS in biology or science education
  - University of Missouri - Ph.D.
  - University of Miami, Ohio – Ph.D.
- Employment
  - Cape Girardeau and Jackson
  - Arcadia Valley
  - Farmington
  - Sikeston
  - Florida
  - Herculaneum
  - St. Louis area
  - Kansas City
  - California
  - St. Vincent’s
  - Cape Career Center
  - Shawnee
  - Most have secured positions by graduation

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.

Special Options with Secondary Education
Southeast offers a Master of Arts in Secondary Education: Educational Studies or Educational Technology.
This is a guide based on the 2018-2019 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 bolded. 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.

**Professional Education Courses:**

A grade of 'C' or better is required in education courses. A grade of 'B' is required in ED 280.

- ED 280 Introduction to Teaching (3)
- EF 400 Student Teaching Seminar (1)
- EX 390 Psychology and Education of the Exceptional Child (3)
- PY 222 Development of the Adolescent (3)
- SE 307 Content Literacy Methods for Middle and High School (3)
- SE 320 Techniques of Teaching Science (3)
- SE 350 Pedagogy 1: Principles of Effective Teaching (3)
- SE 365 Field II (3)
- SE 365 Pedagogy 2: Secondary School (4)
- SE 380 Advanced Field (3)
- SE 385 Pedagogy 3: Advanced Methods of Middle and Secondary Teaching (3)
- SE 389 Instructional Interventions for Middle and Secondary Students with Special Literacy Needs (3)
- SE 465 Student Teaching (12)

**Biology Education - 66 Hour Major - No Minor Required**

Required Courses:

- BI 163 Evolution & Ecology (4)
- BI 173 Cell & Organismal Biology (4)
- BI 283 Genetics (4)
- BI 310 General Microbiology (4)
- BI 323 General Ecology (3)
- BI 389 Career Development in Biology (1)
- BI 405 Engineering in Science Education (1)
- MA 116 Precalculus A (3)
- UI 318 Earth Science: Proc Approach (3)
- UI 422 Scientific Reasoning (3)

**UNIFIED SCIENCE OPTION:**

- BO 310 Plant Biology (4)
- BS 113 Anatomy & Physiology I (4)
- BS 114 Anatomy & Physiology II (4)
- CH 185 General Chemistry (5)
- CH 186 Foundations of Inorganic Chemistry (3)
- GO 110 Physical Geology (3)
- MA 117 Precalculus B (3)

Choose two of the following:

- PH 106 Physical Concepts (3)
- PH 120 Introductory Physics I (5)
- PH 121 Introductory Physics II (5)

**University Studies Requirements** – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 3 hours
- Constitution requirement – 3 hours
- US History requirement – 3 hours
- Written Communication – 6 hours
- Oral Communication – 3 hours
- Natural Sciences – 7 hours (from two disciplines, one to include a lab)
- Mathematics – 3 hours
- Humanities & Fine Arts – 9 hours (from at least two disciplines)
- Additional requirements – 5 hours (to include UI 100 for native students)

**SAMPLE FIVE-YEAR PLAN**

<table>
<thead>
<tr>
<th>Course #</th>
<th>Fall Semester Hrs</th>
<th>Course #</th>
<th>Spring Semester Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>UI100</td>
<td>3</td>
<td>BI173</td>
<td>4</td>
</tr>
<tr>
<td>B163</td>
<td>4</td>
<td>CH186</td>
<td>3</td>
</tr>
<tr>
<td>CH185/085/005</td>
<td>5</td>
<td>EN100</td>
<td>3</td>
</tr>
<tr>
<td>MA116</td>
<td>3</td>
<td>MA117</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>15 Total</td>
<td></td>
<td>16 Total</td>
</tr>
<tr>
<td></td>
<td>Milestone: Maintain 2.75 cumulative GPA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECOND YEAR**

<table>
<thead>
<tr>
<th>Course #</th>
<th>Fall Semester Hrs</th>
<th>Course #</th>
<th>Spring Semester Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI283</td>
<td>4</td>
<td>BI332</td>
<td>3</td>
</tr>
<tr>
<td>BS113/013</td>
<td>4</td>
<td>BS114/014</td>
<td>4</td>
</tr>
<tr>
<td>PY222</td>
<td>3</td>
<td>ED280</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>17 Total</td>
<td></td>
<td>16 Total</td>
</tr>
<tr>
<td></td>
<td>Milestone: Maintain 2.75 cumulative GPA, 42 hours completed; completed MEP, Passing score MGEA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**THIRD YEAR**

<table>
<thead>
<tr>
<th>Course #</th>
<th>Fall Semester Hrs</th>
<th>Course #</th>
<th>Spring Semester Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI310</td>
<td>4</td>
<td>BI405</td>
<td>1</td>
</tr>
<tr>
<td>EX390</td>
<td>3</td>
<td>PH120 or PH 121</td>
<td>5</td>
</tr>
<tr>
<td>PH106 or PH120</td>
<td>3-5</td>
<td>SE307</td>
<td>3</td>
</tr>
<tr>
<td>SE350</td>
<td>3</td>
<td>SE355</td>
<td>3</td>
</tr>
<tr>
<td>University Studies</td>
<td>3</td>
<td>University Studies</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>16-18 Total</td>
<td></td>
<td>16 Total</td>
</tr>
<tr>
<td></td>
<td>Milestone: Pass Physics, Chemistry, Biology Maj. Content Exams; maintain 3.0 GPA in content and pedagogy courses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FOURTH YEAR**

<table>
<thead>
<tr>
<th>Course #</th>
<th>Fall Semester Hrs</th>
<th>Course #</th>
<th>Spring Semester Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE320</td>
<td>3</td>
<td>BI389</td>
<td>1</td>
</tr>
<tr>
<td>SE380</td>
<td>3</td>
<td>BO310</td>
<td>4</td>
</tr>
<tr>
<td>SE385</td>
<td>3</td>
<td>GO110</td>
<td>3</td>
</tr>
<tr>
<td>SE390</td>
<td>3</td>
<td>UI318</td>
<td>3</td>
</tr>
<tr>
<td>UI422</td>
<td>3</td>
<td>University Studies</td>
<td>3</td>
</tr>
<tr>
<td>University Studies</td>
<td>3</td>
<td>University Studies</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>15 Total</td>
<td></td>
<td>14 Total</td>
</tr>
<tr>
<td></td>
<td>Milestone: Pass Earth Science Maj. Content Exam; maintain a 3.0 GPA in content and pedagogy courses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FIFTH YEAR**

<table>
<thead>
<tr>
<th>Course #</th>
<th>Fall Semester Hrs</th>
<th>Course #</th>
<th>Spring Semester Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF 400</td>
<td>1</td>
<td>SE465</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>13 Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Milestone: Prior to last semester: Passing score MA Content Exams, 2.75 cumulative GPA, 3.0 GPA in content; 3.0 GPA in pedagogy; all content and professional education coursework complete</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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), 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.