Biology Education: Unified Science

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.

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.

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.
Biology Education: Unified Science

Bachelor of Science in Education (BSED)

This is a guide based on the 2017-2018 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 DegreeWorks 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.

**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** Reading/Writing in the Content Area (3)
- **SE 320** Techniques of Teaching Science (3)
- **SE 350** Pedagogy 1: Principles of Effective Teaching (3)
- **SE 365** Field II (3)
- **SE 385** Pedagogy 2: Secondary School (4)
- **SE 388** Advanced Field (3)
- **SE 385** Pedagogy 3: Middle and Secondary Education Methods of Secondary Teaching (3)
- **SE 390** Instructional Interventions for Middle and Secondary Students with Special Literacy Needs (3)
- **SE 465** Student Teaching (12)

**Biology Education - 61 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 (3)
- **BI 311** General Microbiology (3)
- **BI 314** Microbiology Lab (3)
- **BI 389** Career Development in Biology (1)
- **BI 405** Engineering in Science Education (1)
- **MA 134** College Algebra (3)
- **UI 318** Earth Science: A Process 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 (3)
- **CH 186** General Chemistry Lab (3)
- **CH 187** Inorganic Chemistry (3)
- **GO 110** Physical Geology (3)
- **MA 133** Plane Trigonometry (3)
- **PH 120** Introductory Physics I (5)
- **PH 121** Introductory Physics II (5)

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

UI100 First Year Seminar, EN100 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

**SAMPLE FOUR-YEAR PLAN**

<table>
<thead>
<tr>
<th>Course #</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<td>UI 100</td>
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<td>BI 173</td>
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<tr>
<td>BI 163</td>
<td>4</td>
<td>CH 186</td>
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<td>CH 185/085/005</td>
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<td>EN 100</td>
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<td>MA 134</td>
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Milestone: Maintain 2.75 cumulative GPA

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<tr>
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<tr>
<td><strong>PY 222</strong></td>
<td>3</td>
<td><strong>ED 280</strong></td>
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<tr>
<td>Develop of a Major Civ</td>
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<td>Oral Expression</td>
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<td>Written Expression</td>
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<td>Social Systems</td>
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Milestone: Maintain 2.75 cumulative GPA, 42 hours completed; completed MEP, Passing score MoGEA

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<th>Fall Semester</th>
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<td>EX 390</td>
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<td>PH 121/021</td>
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<td>SE 307</td>
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<td>SE 350</td>
<td>3</td>
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<td>Economic Systems</td>
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<td>SE 365</td>
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Milestone: Pass Physics, Chemistry, Biology Mo. Content Exams; maintain 3.0 GPA in content and pedagogy courses

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<td>SE 380</td>
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<td>UI 318</td>
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<tr>
<td>UI 422</td>
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<td>Artistic Expression</td>
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<td>Literary Expression</td>
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<td><strong>Total</strong></td>
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Milestone: Pass Earth Science Mo. Content Exam; maintain a 3.0 GPA in content and pedagogy courses

<table>
<thead>
<tr>
<th>Course #</th>
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<th>Spring Semester</th>
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<td><strong>Total</strong></td>
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Milestone: Prior to last semester: Passing score Mo Content Exams, 2.75 cumulative GPA, 3.0 GPA in content; 3.0 GPA in pedagogy; all content and professional education coursework complete.

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 this program.

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
College of Science, Technology, and Agriculture Advising Center (573) 651-5930
costaadvising@semo.edu
www.semo.edu/costa/advising

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