



# Biology Education: Unified Science

## Bachelor of Science in Education (BSED)

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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.

# NCATE

The Standard of Excellence  
in Teacher Preparation

### Becoming Career Ready...

/ Faculty-mentored guidance will help you develop the professional skills needed to become a successful teacher and/or advanced study in graduate and professional programs.

/ B.S. in Unified Science-Biology graduates work in the education field. Examples of job titles include elementary and high school biology teacher, college laboratory technician and college biology professor.

/ 100% of Southeast programs offer real-world experience. B.S. Ed. in Unified Science-Biology students earn this experience through student teaching.

/ B.S. Ed. Unified Science-Biology students will study in the state-of-the-art, first-rate learning environment provided by the recently renovated Magill Hall of Science while gaining hands-on experience and training using a variety of lab equipment, chemical instruments, and tools in laboratory courses. Undergraduate research is also an option.

/ The Student Chapter of the National Science Teacher Association provides peer-support and guidance. The EdVolution Center in Scully Hall provides assistance in preparing for the Missouri Content Assessment exams.

/ The path to a successful career starts with you! You can maximize your career development by working closely with Career Services and Southeast faculty – they are here to help you connect your passions, interests and skills to jobs and opportunities in the field. Career Services provides 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/transferecredit](http://semo.edu/transferecredit).

### 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 credit hours completed
- 2.75 cumulative GPA
- One of the following: 1) Composite/Superscore of 20 or higher on the ACT exam; 2) Passing scores on all sections of the Missouri General Education Assessment (MoGEA); or 3) A 4-year degree from an accredited college/university
- The following course requirements met:
  - A grade of C or above in CF/PY120 The Child (Elementary, Early, and Exceptional) or PY222 Development of the Adolescent (5-9, 9-12, and PK-12)
  - A grade of B or above in ED280 Introduction to Education as a Profession or ME222 Principles of Teaching Music

### 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 must maintain a 2.75 cumulative GPA and a 3.0 GPA in both the area of content expertise and pedagogy courses. In addition, students must pass the MO Content Exam and the MO Educator Evaluation System for recommendation for licensure. Students must also fulfill other assessments such as a dispositions profile and be cleared through an FBI background check.

### Special Options with Secondary Education

Southeast offers a Master of Arts in Secondary Education: Educational Studies or Educational Technology.

To learn more  
Office of Admissions  
(573) 651-2590  
[admissions@semo.edu](mailto:admissions@semo.edu)  
[semo.edu](http://semo.edu)

To explore  
the College  
of Education, Health and  
Human Studies online, visit  
[semo.edu/education-health](http://semo.edu/education-health)

For advising  
Center for Academic Advising  
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This is a guide based on the 2019-2020 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.

- **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 (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)

#### Biology Education - 65 Hour Major - No Minor Required

Required Courses:

- BI163 Evolution & Ecology (4)
- BI173 Cell & Organismal Biology (4)
- BI283 Genetics (4)
- BI310 General Microbiology (4)
- BI332 General Ecology (3)
- BI405 Engineering in Science Education (1)
- MA116 Precalculus A (3)
- UI318/018 Earth Science: Proc Approach (3)
- UI422 Scientific Reasoning (3)

#### UNIFIED SCIENCE OPTION:

- BO310 Plant Biology (4)
- BS113/013 Anatomy & Physiology I (4)
- BS114/014 Anatomy & Physiology II (4)
- CH185/085/005 General Chemistry (5)
- CH186 Foundations of Inorganic Chemistry (3)
- GO110 Physical Geology (3)
- MA117 Precalculus B (3)

Choose two of the following:

- PH106/006 Physical Concepts (3)
- PH120/020 Introductory Physics I (5)
- PH121/021 Introductory Physics II (5)

**General Education Requirements** – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 6 hours
- Constitution 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 UI100 for native students)
- Civics examination

### SAMPLE FIVE-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
<b>FIRST YEAR</b>	UI100	3	BI173	4
	BI163	4	CH186	3
	CH185/085/005	5	EN100	3
	MA116	3	MA117	3
			General Education	3
	<b>Total</b>	<b>15</b>	<b>Total</b>	<b>16</b>
Milestone: Maintain 2.75 cumulative GPA				
<b>SECOND YEAR</b>	BI283	4	BI332	3
	BS113/013	4	BS114/014	4
	<b>PY222</b>	3	<b>ED280</b>	3
	General Education	3	GO110/010	3
	General Education	3	General Education	3
	<b>Total</b>	<b>17</b>	<b>Total</b>	<b>16</b>
Milestone: Maintain 2.75 cumulative GPA, 42 hours completed; completed MEP; Passing score MoGEA				
<b>THIRD YEAR</b>	BI310	4	BI405	1
	EX390	3	PH120 or PH 121	5
	PH106 or PH120	3-5	SE307	3
	SE350	3	SE355	3
	UI318/018	3	SE365	4
		<b>Total</b>	<b>16-18</b>	<b>Total</b>
Milestone: Pass Physics, Chemistry, Biology Mo. Content Exams; maintain 3.0 GPA in content and pedagogy courses				
<b>FOURTH YEAR</b>	SE320	3	BO310	4
	SE380	3	General Education	3
	SE385	3	General Education	3
	SE390	3	General Education	3
	UI422	3		
		<b>Total</b>	<b>15</b>	<b>Total</b>
Milestone: Pass Earth Science Mo. Content Exam; maintain a 3.0GPA in content and pedagogy courses				
<b>FIFTH YEAR</b>	EF 400	1		
	SE 465	12		
		<b>Total</b>	<b>13</b>	
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 the General Education program, completion of 39 senior division hours (300-599), Writing Proficiency Exam (WP003).

Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

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4/29/2019

Degree Map 2019-2020

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

To explore  
the College  
of Education, Health and  
Human Studies online, visit  
semo.edu/education-health

For advising  
Center for Academic Advising  
semo.edu/advising