

# Chemistry Education

## Bachelor of Science in Education (BSED)

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The B.S. Ed. in Chemistry Education prepares highly qualified teachers of chemistry. Students are certified to teach

high school chemistry once all degree requirements and assessments are passed. Students have an exceptional program of professional preparation including field experiences, theory and pedagogy courses. The major is well rounded helping teachers develop a strong foundation of chemical knowledge. Once initial certification is obtained, additional areas of science may be added by passing the Missouri Content Assessment exams, as of present.

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 consult the financial aid office for details.

### Chemistry Education students will...

- Develop a strong knowledge of chemistry
- Learn up-to-date techniques for teaching in the sciences
- Have substantial and increasingly challenging teaching experiences in schools before student teaching
- Know how to differentiate instruction to help all students succeed
- 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. Most students have secured positions by 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.



### Graduate Schools of Recent Graduates

- Southeast Missouri State – MNS in Applied Chemistry, Biology or Science Education; University of Missouri-Ph.D.; University of Miami, Ohio – Ph.D. in Chemistry Education

### Employment Opportunities of Recent Graduates

- Cape Girardeau, Jackson, Oran, Kelly, Arcadia Valley, Farmington, Fredericktown, Sikeston, Dexter, Ste. Genevieve, Cuba, Sullivan, Scott County Central, Puxico, Ellington, Florida, Herculaneum, Perryville, Richland, St. Louis area, Windsor, Caledonia, Advance, Desoto, Kansas City, Rockwood, North City, South Iron County, California, Charleston, Portageville, Cape Career Center, Shawnee, Anna-Jonesboro.

### 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: Educational Studies or Educational Technology

### Transfer and Dual Credit Students

If you have dual credit or transfer credit, please visit our transfer course equivalencies guide at [semo.edu/transfercredit](http://semo.edu/transfercredit).

**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**  
[semo.edu/advising](http://semo.edu/advising)

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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 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 Reading/Writing in the Content Area (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)

#### Chemistry Education – 53 Hour Major - No Minor Required

Required Courses:

- \_\_\_ CH 186 Foundations of Inorganic Chemistry (3)
- \_\_\_ CH 187 Inorganic Chemistry & Qualitative Analysis (2)
- \_\_\_ CH 271 Foundations of Analytical Chemistry (5)
- \_\_\_ CH 306 Foundations of Physical Chemistry (3)
- \_\_\_ CH 341 Foundations of Organic Chemistry (4)
- \_\_\_ CH 342 Organic Chemistry Lab I (1)
- \_\_\_ PH 120 Introductory Physics I (5)
- \_\_\_ CH 531/UI 331 Found of Biochemistry (3)
- \_\_\_ UI 422 Scientific Reasoning (3)

Choose 3 Hours From:

- \_\_\_ BS 108 Biology for Living (3)
- \_\_\_ BS 218 Biological Science: A Process Approach (3)

Choose one of the following:

- \_\_\_ GO 110 Physical Geology (3)
- \_\_\_ GO 220 Meteorology (3)
- \_\_\_ GO 320 Oceanography (3)
- \_\_\_ UI 318 Earth Science: Process Approach (3)

Choose one of the following Environmental Science Electives:

- \_\_\_ BI 332 General Ecology (3)
- \_\_\_ BS 105 Environmental Biology (3)
- \_\_\_ CH 450/EV 450 Environmental Chemistry (3)
- \_\_\_ GO 150 Earth Science: Environmental Hazards (3)
- \_\_\_ GO 305 Environmental Geoscience (3)
- \_\_\_ UI 360 Recycling & Waste Management (3)
- \_\_\_ UI 372 Earthquakes & Society (3)

Additional Requirements:

- \_\_\_ CH 185 General Chemistry (5)
- \_\_\_ CH 405 Engineering in Science Education (1)
- \_\_\_ MA 116 Precalculus A (3)
- \_\_\_ MA 139 Applied Calculus (3)
- \_\_\_ UI 443 Professional Experience in Chemistry (3)

**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 UI100 for native students)

### SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
<b>FIRST YEAR</b>	UI100	3	<b>PY222</b>	3
	EN100	3	CH186	3
	CH185	5	CH187	2
	University Studies	3	MA116	3
	University Studies	3	University Studies	3
				University Studies
	<b>Total</b>	<b>17</b>	<b>Total</b>	<b>17</b>
Milestone: Maintain 2.75 cumulative GPA, Complete MEP				
<b>SECOND YEAR</b>	BS108 or BS218	3	<b>ED280</b>	3
	CH271	5	CH341	4
	MA139	3	CH342	1
	University Studies	3	PH120	5
	University Studies	3	Env. Science Elective	3
		<b>Total</b>	<b>17</b>	<b>Total</b>
Milestone: Maintain 2.75 cumulative GPA, Passing score MoGEA				
<b>THIRD YEAR</b>	CH531 or UI331	3	CH405	1
	EX390	3	GO110 or 220 or 320 or UI 318	3
	SE350	3	SE307	3
	UI422	3	SE355	3
	University Studies	3	SE365	4
	University Studies	3	UI443	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>	CH306	3	EF400	1
	SE320	3	SE465	12
	SE380	3		
	SE385	3		
	SE390	3		
	University Studies	3		
	<b>Total</b>	<b>18</b>	<b>Total</b>	<b>13</b>
Milestone: all content and professional education coursework completed.				

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 (MAP) 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.

Revised  
7/10/2018