

## Bachelor of Science in Education (BSED)

# Chemistry Education

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. In fact, more than 90% of Southeast students participate in internships, clinical opportunities, student teaching, research assistantships, and study abroad.

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

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

Demonstrated Career Proficiency is a Requirement of all Southeast Students		
CL001/CL002	First Semester	Complete the FOCUS2 assessment and develop a Career Action Plan.
CL003	Junior Year	Students gain information about career planning and job searching resources.
CL004	Senior Year	Students demonstrate advanced proficiency by identifying a position in their field, developing a cover letter, and tailoring a resume for the position. Materials are critiqued to ensure preparedness for a successful job search.

### Employment Opportunities and Graduate Schools of Recent Graduates

- Graduate Schools: 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 at schools in Cape Girardeau, Jackson, Oran, Kelly, Arcadia Valley, Farmington, Fredericktown, Sikeston, Dexter, Ste. Genevieve, Cuba, Sullivan, Scott County Central, Puxico, Ellington, Florida, Herculeaneum, 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. Most had secured positions by graduation.

### Admission Requirements

#### Students graduating prior to spring 2017

- Cumulative 2.50 GPA
- Passage of CBASE or Missouri General Education Assessment (MoGEA)

#### Students graduating spring 2017 or later

- Cumulative 2.75 GPA
- Pass all sections of the Missouri General Education Assessment *Current Pass Scores for MoGEA*
  - English - 186
  - Writing - 167
  - Math - 183
  - Science - 183
  - Social Studies – 183

#### All students must have:

- 42 hours of course credits
- Missouri Educator Profile (MEP) results on file
- Passage of all sections of the Missouri General Education Assessment (MoGEA) test.
- ED 280 Introduction to Teaching as a Profession with a grade of "B" or above
- PY222 Development of the Adolescent

### 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

- Cumulative 2.75 GPA
- GPA of 3.0 in area of content and pedagogy courses
- Pass the Missouri Content Area Exam in Chemistry
- Pass the Missouri Preservice Teacher Assessment
- Fulfill the assessment of the Missouri Educator Profile
- Complete a FBI background check

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

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

**For advising**  
Center for Academic Advising - North  
(573) 651-5090  
www.semo.edu/advising  
advisingnorth@semo.edu

# Chemistry Education

## Bachelor of Science in Education (BSED)

This is a guide based on the 2016-2017 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.

*(Curriculum pending state approval)*

#### 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 185 General Chemistry (5)
- \_\_\_ 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)
- \_\_\_ CH 405 Engineering in Science Education (1)
- \_\_\_ MA 134 College Algebra (3)
- \_\_\_ MA 139 Applied Calculus (3)
- \_\_\_ PH 120 Introductory Physics I (5)
- \_\_\_ UI 331 Found of Biochemistry (3)
- \_\_\_ UI 422 Scientific Reasoning (3)
- \_\_\_ UI 443 Professional Experience in Chemistry (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)

#### 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

### 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
	Literary Expression	3	MA134	3
	Social Systems	3	Develop of a Major Civ	3
			Written Expression	3
	<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
	Economic Systems	3	PH120	5
	Political Systems	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>	EX390	3	CH405	1
	SE350	3	GO110 or 220 or 320 or UI 318	3
	UI331	3	SE307	3
	UI422	3	SE355	3
	Artistic Expression	3	SE365	4
	Oral Expression	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		
	Political Systems	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, 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 DegreeWorks for additional graduation requirements (i.e. minimum GPA and additional options) for your program of study.

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

Revised  
3/28/2016