

## Bachelor of Science in Chemistry Education/Categorical Science

*This is a model four year graduation plan (not ACS certified). Your path to graduation may vary slightly based on factors such as college credit you earned while in high school and your choice of general education electives.*

### First Semester (Fall)

GEP 101 First Year Foundations	2 hr
Public Affairs Cultural Competence elective	3 hr
ENG 110 Writing I	3 hr
CHM 160/161 General Chemistry I/Lab	5 hr
BIO 121 General Biology I	4 hr
EDC 150 Introduction to Teaching	0 hr
<b>Total Hours</b>	<b>17</b>

### Second Semester (Spring)

CHM 170/171 General Chemistry II/Lab	4 hr
Public Affairs: Public Issues elective	3 hr
GLG 110 Principles of Geology	4 hr
PSY 121 Introductory Psychology (GEC 110)	3 hr
COM 115 Public Speaking	3 hr
<b>Total Hours</b>	<b>17</b>

### Third Semester (Fall)

CHM 375 Inorganic Chemistry <sup>1</sup>	3 hr
MTH 287 Comp. Calculus w/Anal. Geom. I <sup>1</sup>	3 hr
SCI 214 Introduction to Science Teaching	1 hr
PSY 360 Educational Psychology	3 hr
PHY 123 Introduction to Physics I	4 hr
PLS 101 American Democracy and Citizenship	3 hr
<b>Total Hours</b>	<b>17</b>

### Fourth Semester (Spring)

CHM 201/202 Essentials of Organic Chemistry/Lab	5 hr
ENG 210 Writing II	3 hr
PHY 124 Introduction to Physics II	4 hr
SEC 302 Instruction in Middle and Secondary Schools	3 hr
<b>Total Hours</b>	<b>15</b>

### Fifth Semester (Fall)

CHM 460 Environmental Chemistry: Water & Land <sup>1</sup>	3 hr
EDC 350 School and Society	3 hr
SPE 340 Educ. Alternatives for Excep. Students	2 hr
CHM 302 Introduction to Analytical Chemistry	5 hr
Human Cultures: Social & Behavioral Sciences elective	3 hr
<b>Total Hours</b>	<b>16</b>

### Sixth Semester (Spring)

CHM 505 Fundamentals of Physical Chemistry <sup>2</sup>	4 hr
SCI 505 Intellectual Found. of Science & Technology	3 hr
CHM 435 Chemistry for Teachers <sup>2</sup>	1 hr
SCI 314 Techniques & Technology in Sci. Lab Teaching	3 hr
EDT 365 Instruct. Applications of Tech. and Media	3 hr
<b>Total Hours</b>	<b>14</b>

### Seventh Semester (Fall)

SCI 414 Teaching of Secondary School	3 hr
Human Cultures: Humanities elective	3 hr
CHM 352 Intro to Biochemistry	3 hr
HST 121 or 122 American History	3 hr
Human Cultures: The Arts elective	3 hr
RDG 474 Reading & Writing in Content Fields	2 hr
<b>Total Hours</b>	<b>17</b>

### Eighth Semester (Spring)

SCI 493 Supervised Teaching	6 hr
SCI 494 Supervised Teaching	6 hr
<b>Total Hours</b>	<b>12</b>

<sup>1</sup> Offered only in the Fall

<sup>2</sup> Offered only in the Spring

Consider taking GEC courses during the summer sessions to lower your credit hour totals for regular academic year semesters. CHM 435 is only offered in odd-numbered years, so you may need to take it in your 4<sup>th</sup> or 8<sup>th</sup> semesters, depending on the year you start the program.



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find your  
**PLACE**

## B.S. - Chemistry Education

Bachelor of Science Degree Requirements

**Department of Chemistry**  
College of Natural and Applied Sciences

Department of Chemistry  
901 South National Avenue  
Springfield, Missouri 65897  
  
Advisor Contact: Dr. Bhattacharyya  
Temple 421  
417-836-4487  
GautamB@missouristate.edu  
www.chemistry.missouristate.edu

## Requirements for Bachelor of Science in Chemistry Education

- General Education Requirements (43-54 hours)

The following required courses can be used to meet both General Education and Major Requirements: BIO 121; CHM 160 or PHY 123 or GLG 110 or GLG 171; MTH 287.

### Major Requirements

- General Chemistry - CHM 160/161 and 170/171
- Organic Chemistry - CHM 201/202 or CHM 342 and 343, or CHM 342 and 344
- Introduction to Analytical Chemistry - CHM 302
- Introduction to Biochemistry - CHM 352
- CHM 435
- Environmental Chemistry I - CHM 460
- Fundamentals of Physical Chemistry - CHM 505
- NOTE:** Students seeking American Chemical Society certification must take either CHM 342 and 343 or CHM 342 and 344.

### Emphasis Requirements

- Categorical Science (3 hours): CHM 375 (3)
- Unified Science (13 hours): CHM 463 (1); BIO 122 (4); GLG 110 (4); GRY 135 (4)

### Related Requirements

- Biology - BIO 121
- Geology - GLG 110 or GLG 171
- Mathematics - MTH 287
- Physics - PHY 123 and 124
- SCI 505

### Professional Education Courses

- SCI 214, 314, 414, 493, 494 and the Professional Education Required Core and Competencies (see Teacher Certification, Teacher Education Program and Secondary Education Requirements in undergraduate catalog.

In order to meet Missouri state teacher certification requirements, candidates for the Bachelor of Science in Education degree are required to meet the following grade point average requirements:

- at least a 2.50 GPA on all course work attempted at all colleges attended
- at least a 2.50 GPA in the certificate subject area (major field of study)
- at least a 2.50 GPA in any additional certificate subject area
- at least a 2.50 GPA in the professional education courses
- no grade lower than a "C" in all professional education courses

## Bachelor of Science in Chemistry Education/Unified Science

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### First Semester (Fall)

GEP 101 First Year Foundations	2 hr
GEC 115 Cultural Competence	3 hr
ENG 110 Writing I	3 hr
CHM 160/161 General Chemistry I/Lab	5 hr
BIO 121 General Biology I	4 hr
EDC 150 Introduction to Teaching	0 hr
<b>Total Hours</b>	<b>17</b>

### Second Semester (Spring)

CHM 170/171 General Chemistry II/Lab	4 hr
BIO 122 General Biology II	4 hr
GLG 110 Principles of Geology	4 hr
PSY 121 Introductory Psychology (GEC 110)	3 hr
COM 115 Public Speaking	3 hr
<b>Total Hours</b>	<b>18</b>

### Third Semester (Fall)

GRY 135 Principles of Weather & Climate <sup>3</sup>	4 hr
MTH 287 Comp. Calculus w/Anal. Geom. I <sup>1</sup>	3 hr
SCI 214 Introduction to Science Teaching	1 hr
PSY 360 Educational Psychology	3 hr
PHY 123 Introduction to Physics I	4 hr
PLS 101 American Democracy and Citizenship	3 hr
<b>Total Hours</b>	<b>18</b>

### Fourth Semester (Spring)

CHM 201/202 Essentials of Organic Chemistry/Lab	5 hr
ENG 210 Writing II	3 hr
PHY 124 Introduction to Physics II	4 hr
SEC 302 Instruction in Middle and Secondary Schools	3 hr
KIN 210 Healthy Lifestyles (GEC 116)	3 hr
<b>Total Hours</b>	<b>18</b>

### Fifth Semester (Fall)

CHM 460 Environmental Chemistry: Water & Land <sup>1</sup>	3 hr
EDC 350 School and Society	3 hr
SPE 340 Educ. Alternatives for Excep. Students	2 hr
CHM 302 Introduction to Analytical Chemistry	5 hr
GEC 110 Social & Behavioral (Gen Ed)	3 hr
<b>Total Hours</b>	<b>16</b>

### Sixth Semester (Spring)

CHM 505 Fundamentals of Physical Chemistry <sup>2</sup>	4 hr
SCI 505 Intellectual Found. of Science & Technology	3 hr
CHM 435 Chemistry for Teachers <sup>2</sup>	1 hr
SCI 314 Techniques & Technology in Sci. Lab Teaching	3 hr
CHM 463 Environmental Analysis <sup>2</sup>	1 hr
EDT 365 Instruct. Applications of Tech. and Media	3 hr
<b>Total Hours</b>	<b>15</b>

### Seventh Semester (Fall)

SCI 414 Teaching of Secondary School	3 hr
GEC 111 Public Issues (Gen Ed)	3 hr
CHM 352 Introduction to Biochemistry	3 hr
HST 121 or 122 American History (GEC 113)	3 hr
GEC 112 The Arts	3 hr
RDG 474 Reading & Writing in Content Fields	2 hr
<b>Total Hours</b>	<b>17</b>

### Eighth Semester (Spring)

SCI 493 Supervised Teaching	6 hr
SCI 494 Supervised Teaching	6 hr
<b>Total Hours</b>	<b>12</b>

<sup>1</sup> Offered only in the Fall

<sup>2</sup> Offered only in the Spring

<sup>3</sup> Consider taking GRY 135 and GEC courses during summer sessions to lower your credit hour totals for regular academic year semesters. CHM 435 is only offered in odd-numbered years, so you may need to take it in your 4<sup>th</sup> or 8<sup>th</sup> semesters, depending on the year you start your program.