# BSEd in Secondary Education with Emphasis in Chemistry

## Degree Program Description

The Bachelor of Science in Education in Secondary Education prepares students to work with children from ninth through twelfth grade in public, private, and alternative school systems. You may consider a degree in education if you enjoy working with children and/or adolescents, want to strengthen the future through education, and want to make a difference in the lives of others. MU Students work closely with mentors, practicing teachers, administrators, and university faculty to develop the knowledge and skills to enhance learning outcomes for children and youth. The coursework through the College of Education focuses on teachers’ roles in facilitating learning at all levels of development and considers the influences of cultural, political, historical, and economic factors on students, teachers, and schools. Upon successfully completing the initial teacher certification process, the state grants you certification in secondary chemistry. Practical and rewarding clinical training in schools and agencies begins sophomore year, and continues each semester culminating in a senior-level teaching internship, enhancing teaching skills and confidence. Coursework within Secondary Chemistry provides you with experience in the methods of teaching chemistry and supporting learners in the development of scientific literacy. This includes consideration of the nature of science, methods for teaching science, strategies for assessing science learning, and pathways for developing into a professional chemistry educator.

## Major Program Requirements

Students must complete all university ([http://catalog.missouri.edu/academicdegreerequirements/universityrequirements/](http://catalog.missouri.edu/academicdegreerequirements/universityrequirements/)), general education ([http://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements/](http://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements/)), and content requirements, in addition to degree requirements. Please meet with an Academic Advisor to discuss degree requirements and to create a semester plan.

Teacher Education programs in the College of Education are accredited by the Missouri Department of Elementary and Secondary Education (DESE ([https://dese.mo.gov/](https://dese.mo.gov/))). Curriculum changes mandated to earn teacher certification may become effective at any point during your academic program. Therefore, it is extremely important that you DO NOT SELF ADVISE.

## Phase I

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>LTC 1100</td>
<td>Orientation (OR)</td>
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<tr>
<td>or LTC 1120</td>
<td>Orientation: Math Education</td>
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</tr>
<tr>
<td>or LTC 1130</td>
<td>Orientation: Middle School Education</td>
<td></td>
</tr>
<tr>
<td>or LTC 1155</td>
<td>Orientation: Science Education</td>
<td></td>
</tr>
<tr>
<td>or LTC 1170</td>
<td>Orientation: English/Language Arts</td>
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<tr>
<td>or SPC_ED 1100</td>
<td>Orientation: Special Education</td>
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<tr>
<td>LTC 2200</td>
<td>School Health and Student Wellbeing</td>
<td>3</td>
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<tr>
<td>ESC_PS 2000</td>
<td>Experiencing Cultural Diversity in the United States</td>
<td>3</td>
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<tr>
<td>ESC_PS 2010</td>
<td>Inquiry Into Learning I</td>
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<tr>
<td>ESC_PS 2014</td>
<td>Inquiry into Learning I - Field Experience</td>
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## Phase II

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<tbody>
<tr>
<td>LTC 4634</td>
<td>Teaching Middle and Secondary Science I Field</td>
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<tr>
<td>LTC 4560</td>
<td>Reading and Writing in the Content Areas</td>
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<tr>
<td>LTC 4460</td>
<td>Teaching English to Speakers of Other Languages</td>
<td>3</td>
</tr>
<tr>
<td>LTC 4641</td>
<td>Teaching Middle and Secondary Science II</td>
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</tr>
<tr>
<td>LTC 4644</td>
<td>Teaching Middle and Secondary Science II Field</td>
<td>1</td>
</tr>
<tr>
<td>SPC_ED 4020</td>
<td>Teaching the Exceptional Learner</td>
<td>3</td>
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<tr>
<td>LTC 4565</td>
<td>Reading and Writing in the Content Areas II</td>
<td>3</td>
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<tr>
<td>LTC 4654</td>
<td>Teach Sci MS/Sec Sch:Phil Hist Sci Inq Curr Assm &amp; Tech III Fld</td>
<td>1</td>
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<tr>
<td>ED_LPA 4060</td>
<td>Inquiring into Schools, Community and Society II</td>
<td>3</td>
</tr>
<tr>
<td>SPC_ED 4310</td>
<td>Behavioral and Classroom Management</td>
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## Phase III

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<tbody>
<tr>
<td>LTC 4971</td>
<td>Internship and Capstone Seminar</td>
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## Content Area

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<tr>
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<tr>
<td>CHEM 1320</td>
<td>College Chemistry I</td>
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<tr>
<td>CHEM 1330</td>
<td>College Chemistry II</td>
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<tr>
<td>CHEM 2100</td>
<td>Organic Chemistry I</td>
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<tr>
<td>CHEM 2110</td>
<td>Organic Chemistry II</td>
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</tr>
<tr>
<td>CHEM 2130</td>
<td>Organic Laboratory I</td>
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</tr>
<tr>
<td>CHEM 3200</td>
<td>Quantitative Methods of Analysis with Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 4310</td>
<td>Physical Chemistry I</td>
<td>3</td>
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<tr>
<td>BIOCHM 3630</td>
<td>General Biochemistry</td>
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<tr>
<td>MATH 1500</td>
<td>Analytic Geometry and Calculus I</td>
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<tr>
<td>MATH 1700</td>
<td>Calculus II</td>
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<tr>
<td>BIO_SC 1500</td>
<td>Introduction to Biological Systems with Laboratory (Recommended)</td>
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Or both of the following:

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<th>Course Title</th>
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<tr>
<td>BIO_SC 1010</td>
<td>General Principles and Concepts of Biology (Also Accepted)</td>
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<td>BIO_SC 1020</td>
<td>General Biology Laboratory (Also Accepted)</td>
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Or the following:

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
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<td>General Principles and Concepts of Biology with Laboratory (Transfer Only)</td>
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<td>PHYSICS 1210</td>
<td>College Physics I (OR)</td>
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<td>PHYSICS 2750</td>
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<tr>
<td>GEOL 1200</td>
<td>Environmental Geology with Laboratory (Recommended)</td>
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Or
### Semester Plan

Below is a sample plan of study, semester by semester. A student’s actual plan may vary based on course choices and where options are available.

<table>
<thead>
<tr>
<th>First Year</th>
<th>CR</th>
<th>Spring</th>
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<tbody>
<tr>
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<td>ENGLSH 1000</td>
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<tr>
<td>ESC_PS 2000 (Social Science)</td>
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<tr>
<td>American History or Government</td>
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<td>CHEM 1330</td>
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<td>Writing Intensive &amp; Humanities</td>
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<td>LTC 4644</td>
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<td>LTC 4660</td>
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<table>
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Total Credits: 122-123