

College of Education Bachelor of Science in Education, emphasis in Biology Education  
The Bachelor of Science (BS Ed) in Biology Education leads to a Missouri Teaching Certificate (9th-12th)

<b>Basic Requirements (24-36hrs)</b> Includes MU General Educ. and CoED Degree Requirements				<b>Professional Education(43hrs)</b> 2.000 GPA required in each course 3.000 Overall GPA required in Professional Education				<b>Single Subject Biology Content Area (51-55hrs)</b> 3.000 Overall GPA required in content courses (^)							
	Sem. Hrs.	Semester	Grade		Sem. Hrs.	Semester	Grade		Sem. Hrs.	Semester	Grade				
<i>See notes on back for more details.</i>															
<b>ENGLISH 1000*(C range grade)</b>				<b>Phase I (9hrs)*</b>				<b>Biology (32-36hrs)</b>							
MATH 1100*(C range grade) or equivalent				LTC 1155 Orientation				BIO_SC 1500 General Biology^							
WI (C range grade) _____				ESC_PS 2010 Inq Into Learning I				BIO_SC 2200 Genetics ^							
<b>Biological &amp; Physical Sciences (fulfilled in content area)</b>				ESC_PS 2014 IL I Field				BIO_SC 2300 Cell Biology^							
<b>Math Reasoning Prof. (3hrs) (C range grade)</b>				LTC 2040 Inq, Schls, Comm, & Soc I				BIO_SC 4600 Evolution^							
MATH 1400 or STAT 1400				LTC 2044 ISCS I Field				BIO_SC 3650 Ecology							
<b>Social and Behavioral Science (9hrs)</b>				<b>Phase II (20 hrs)** Fall Start Only</b>				BIO_SC 3700 Animal Physiology^ (or MPP 3202 Physiology) (if completing the dual degree, take BIO_SC 3700)							
POL_SC 1100				<b>Semester 1</b>											
HIST 1100, 1200 or 2210				LTC 4560 Teaching Reading in Cont Area				Botany-choose one: BIO_SC 1200^, 3210^, 4320, or 4660 (if completing dual degree, take BIO_SC 3210)							
PSYCH 1000				LTC 4631 Teach Science in Sec Schools I (WI)											
<b>Humanities and/or Fine Arts (9hrs)</b>				LTC 4634 Teach Science in Sec Schools I Fld				Biology Elec BIO_SC _____ (faculty approved) (if completing dual degree, this can be capstone course for A&S)							
COMMUN 1200* or equiv				<b>Semester 2</b>											
				SPC_ED 4020 Inquiry into Learning II				<b>Chemistry (10hrs)</b>							
				LTC 4641 Teach Sci in Sec Schls: Phil, Hist...^				CHEM 1320 College Chemistry I^							
<b>Intermediate Level (0-3hrs) (fulfilled in content area, unless also completing BA in Biology. (See dual degree on back)</b>				LTC 4644 Teach Sci in Sec Schls: Phil, Hist Fld				CHEM 1330 College Chemistry II							
				<b>Semester 3</b>				CHEM 2030 Survey of Organic Chem (if completing dual degree, then take CHEM 2100 and 2110 instead of CHEM 2030)							
				ED_LPA 4060 ISCS II											
<b>World International (0-3hrs)</b>				LTC 4651 Teach Science in Sec Schools III				<b>Earth Science (4hrs)</b>							
				LTC 4654 Teach Science in Sec Schools III Fld				GEOL 1200 Environmental Geol w/lab^							
*Must be completed before Phase II **Application and admission to Phase II required ^Denotes course for content GPA A minimum of 120 credit hours is required for an MU degree 2.750 Overall & UM GPA req. for Graduation				<b>Phase III (14hrs)</b>				<b>Physics (4hrs)</b>							
				LTC 4971 Teaching Internship & Capstone				14				PHYSICS 1210 College Physics I^			
												<i>See back for details regarding dual degree requirements</i>			
				<b>Unified Science-Biology Endorsement (11hrs) GPA of 3.000 required in content</b>											
				<b>Complete all coursework required for Single Subject PLUS:</b>											
				<b>Earth Science (7hrs)</b>				<b>Physics (4hrs)</b>							
				ASTRON 1010 Introduction to Astronomy				PHYSICS 1220 College Physics II							
				ATM_SC 1050 Introductory Meteorology											

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Phase II Checklist	If you would like to add Middle School Certification (grades 5-9), the following courses are highly recommended:	Notes																								
<p><input type="checkbox"/> Demonstration of competence of Phase I learning markers as demonstrated by satisfactory completion of Phase I courses</p> <p><input type="checkbox"/> Satisfactory completion of oral communication proficiency</p> <p><input type="checkbox"/> Satisfactory completion of English 1000 Exposition and Argumentation with a C-range grade or higher (or equivalent)</p> <p><input type="checkbox"/> Satisfactory completion of Math 1100 College Algebra with a C-range grade or higher (or equivalent)</p> <p><input type="checkbox"/> Overall GPA of 2.750 or higher</p> <p><input type="checkbox"/> UM GPA of Record of 2.750 or higher</p> <p><input type="checkbox"/> Satisfactory completion of appropriate Missouri Educator Gateway Assessment(s)</p> <p><input type="checkbox"/> Currently enrolled in the College of Education</p> <p><input type="checkbox"/> Completion of application for Progression into Phase II</p> <p><input type="checkbox"/> Possession of characteristics associated with effective performance in a professional role at level and major selected</p> <p>Decisions regarding Phase II admission are made by faculty. Meeting minimum requirements for admission to Phase II does not guarantee admission to Phase II.</p> <p>Faculty Coordinator Dr. Patricia Friedrichsen 312E Townsend Hall 573-882-6828 friedrichsenp@missouri.edu</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;"></th> <th style="width: 10%; text-align: center;">Sem. Hrs.</th> <th style="width: 10%; text-align: center;">Semester</th> <th style="width: 10%; text-align: center;">Grade</th> </tr> </thead> <tbody> <tr> <td>LTC 4354 Middle School Science Field (SP)</td> <td style="text-align: center;">1</td> <td></td> <td></td> </tr> <tr> <td>LTC 4420 Adolescent Literacy (replacing LTC 4560) (SP)</td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> <tr> <td>LTC 4424 Adolescent Literacy Fld (SP)</td> <td style="text-align: center;">1</td> <td></td> <td></td> </tr> <tr> <td>LTC 4410 Teach, Engag, &amp; Assess Mid-Level Students (FS)</td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> <tr> <td>LTC 4414 Teach, Engag, &amp; Assess Mid-Level Students Fld (FS)</td> <td style="text-align: center;">1</td> <td></td> <td></td> </tr> </tbody> </table> <p style="text-align: center;"><b>Missouri Department of Elementary and Secondary Education Highly Qualified Teacher</b></p> <p>The Department of Elementary and Secondary Education requires that individuals seeking certification to teach subjects in addition to their initial area of certification pass the Content Area Exam in those subjects in order to be considered a Highly Qualified Teacher.</p> <p style="text-align: center;"><b>Dual Degree-Bachelor of Arts in Biology through the College of Arts and Science</b></p> <p>____ Review <a href="http://www.t2d2.missouri.edu">www.t2d2.missouri.edu</a> website for opportunities for dual degree students</p> <p>____ Meet with Biological Sciences Advisor in 3 Tucker Hall <a href="http://www.biology.missouri.edu/undergrad/advisingcontacts.html">http://www.biology.missouri.edu/undergrad/advisingcontacts.html</a></p> <p>____ Declare dual degree by completing Transfer of Division Application</p> <p>____ Notify your College of Education Advisor that you will be pursuing a dual degree in Arts &amp; Science</p> <p>Check with Arts &amp; Science advisor on the required capstone course</p> <p>Verify additional general education requirements for Arts &amp; Science degree with an Arts &amp; Science advisor</p> <p>*A minimum of 132 credit hours is required for earning a dual degree</p>		Sem. Hrs.	Semester	Grade	LTC 4354 Middle School Science Field (SP)	1			LTC 4420 Adolescent Literacy (replacing LTC 4560) (SP)	3			LTC 4424 Adolescent Literacy Fld (SP)	1			LTC 4410 Teach, Engag, & Assess Mid-Level Students (FS)	3			LTC 4414 Teach, Engag, & Assess Mid-Level Students Fld (FS)	1			<p><input type="checkbox"/> <b>College Algebra</b> Math 1100, 1160 or equivalent (C-range grade or higher) Please see <a href="http://www.mathplacement.missouri.edu">www.mathplacement.missouri.edu</a> for complete details regarding College Algebra exemption and earning College Algebra credit by proctored ALEKS exam.</p> <p><input type="checkbox"/> <b>Writing Intensive (WI)</b> Two courses: 3 cr. hr. writing intensive designated coursework from university curriculum (course may be used to fulfill a general education or CoED requirement); 3 cr. hr. professional education course, C-range grade or higher. Please see <a href="http://www.cwp.missouri.edu">www.cwp.missouri.edu</a> for writing intensive course options approved by semester. ENGLISH 1000 is a pre-requisite.</p> <p><input type="checkbox"/> <b>General Education Distribution</b> For a complete list of courses used to fulfill general education distribution areas (i.e. Biological, Physical, Mathematical Sciences; Behavioral and Social Sciences; and Humanities and Fine Arts), please go to <a href="http://www.generaleducation.missouri.edu">www.generaleducation.missouri.edu</a></p> <p><input type="checkbox"/> <b>Math Reasoning Proficiency (MRP)</b> Must require college algebra as a pre-requisite (C-range grade or higher)</p> <p><input type="checkbox"/> <b>Intermediate Level</b> A Humanities and Fine Arts, Mathematics, Biological or Physical Science course numbered 2000 or higher. (Course may be used to fulfill a general education or CoED requirement)</p> <p><input type="checkbox"/> <b>Oral Communication Proficiency</b> COMMUN 1200 or equivalent (C-range grade or higher); or passing score on the Principles of Public Speaking DSST exam. COMMUN 1200 may be used to fulfill 3 cr. hrs. of Humanities and Fine Arts</p> <p><input type="checkbox"/> <b>World International</b> List of approved courses available in Advising and Certification Services Office and Orientation Handbook. Course may be used to fulfill a general education or CoED requirement.</p> <p style="text-align: center;"><b>Missouri Educator Gateway Assessments (MEGA)</b></p> <ul style="list-style-type: none"> <li>· Missouri Educator Profile</li> <li>· General Education Assessment</li> <li>· Standards-Based Performance Assessment</li> <li>· Content Area Assessments</li> </ul>
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