

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

Basic Requirements (31-40hrs) Includes MU General Educ. and CoED Degree Requirements				Professional Education (43hrs) 2.000 GPA required in each course 3.000 Overall GPA required in Professional Education				Single Subject Chemistry Content Area (46-47hrs) 3.000 Overall GPA required in content courses (^)			
<i>See notes on back for more details.</i>	Sem. Hrs.	Semester	Grade		Sem. Hrs.	Semester	Grade		Sem. Hrs.	Semester	Grade
ENGLSH 1000*(C range grade)	3			Phase I (9hrs)*				Chemistry (26hrs)			
MATH 1100*(C range grade) or equivalent	0-3			LTC 1155 Orientation	1			CHEM 1320 College Chemistry I^			
WI (C range grade) _____	0-3			ESC_PS 2010 Inq Into Learning I	3			CHEM 1330 College Chemistry II			
Biological & Physical Sciences (fulfilled in content area)				ESC_PS 2014 IL I Field	1			CHEM 2100 Organic Chemistry I^			
Mathematical Science (10hrs) (fulfills MRP req)				LTC 2040 Inq, Schls, Comm, & Soc I	3			CHEM 2110 Organic Chemistry II			
MATH 1500 Calculus I	5			LTC 2044 ISCS I Field	1			CHEM 2130 Organic Laboratory I^			
MATH 1700 Calculus II	5			Phase II (20 hrs)** Fall Start Only				CHEM 3200 Quantitative Analysis^			
Social and Behavioral Science (9hrs)				Semester 1				CHEM 3300 Physical Chemistry^			
POL_SC 1100	3			LTC 4560 Teaching Reading in Cont Area	2			BIOCHM 3630 General BioChemistry^			
HIST 1100, 1200, or 2210	3			LTC 4631 Teach Science in Sec Schools I (WI)	3			Biology (5hrs)			
PSYCH 1000	3			LTC 4634 Teach Science in Sec Schools I Fld	1			BIO_SC 1500 Intro To Biological Sys^			
Humanities and/or Fine Arts (9hrs)				Semester 2				Earth Science (7-8hrs) Choose either ATM_SC 1050 or ASTRON 1010			
COMMUN 1200* or equiv	3			SPC_ED 4020 Inquiry into Learning II	3			GEOL 1200 Env Geology w/ Lab^			
	3			LTC 4641 Teach Sci in Sec Schls: Phil, Hist...^	3						
	3			LTC 4644 Teach Sci in Sec Schls: Phil, Hist Fld	1			Physics (8hrs)			
Intermediate Level (fulfilled in content)				Semester 3				PHYSCS 1210 College Physics I^			
World International (0-3hrs)				ED_LPA 4060 ISCS II	3			PHYSCS 1220 College Physics II			
	0-3			LTC 4651 Teach Science in Sec Schools III	3			<i>See back for details regarding dual degree requirements</i>			
				LTC 4654 Teach Science in Sec Schools III Fld	1						
				Phase III (14hrs)							
				LTC 4971 Teaching Internship & Capstone	14						
*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 required for Graduation				Unified Science-Chemistry Endorsement (18-21hrs) GPA of 3.000 required in content							
				Complete all coursework required for Single Subject PLUS:							
				Biology (15-17hrs)				Earth Science (3-4hrs)-Complete ATM_SC 1050, ASTRON 1010, & GEOL 1200			
				BIO_SC 2200 Genetics	4			Choose either Atm_Sci 1050 or Astron 1010			
				BIO_SC 3650 Ecology	5						
BIO_SC 4600 Evolution	3										
Botany (BIO_SC 1200, 3210, 4400, 4320, 4660, or PLNT_S 4500)	3-5										

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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																								
<input type="checkbox"/> Demonstration of competence of Phase I learning markers as demonstrated by satisfactory completion of Phase I courses <input type="checkbox"/> Satisfactory completion of oral communication proficiency <input type="checkbox"/> Satisfactory completion of English 1000 Exposition and Argumentation with a C-range grade or higher (or equivalent) <input type="checkbox"/> Satisfactory completion of Math 1100 College Algebra with a C-range grade or higher (or equivalent) <input type="checkbox"/> Overall GPA of 2.750 or higher <input type="checkbox"/> UM GPA of Record of 2.750 or higher <input type="checkbox"/> Satisfactory completion of appropriate Missouri Educator Gateway Assessment(s) <input type="checkbox"/> Currently enrolled in the College of Education <input type="checkbox"/> Completion of application for Progression into Phase II <input type="checkbox"/> Possession of characteristics associated with effective performance in a professional role at level and major selected Decisions regarding Phase II admission are made by faculty. Meeting minimum requirements for admission to Phase II does not guarantee admission to Phase II.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></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, & Assess Mid-Level Students (FS)</td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> <tr> <td>LTC 4414 Teach, Engag, & Assess Mid-Level Students Fld (FS)</td> <td style="text-align: center;">1</td> <td></td> <td></td> </tr> </tbody> </table>		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			<input type="checkbox"/> College Algebra Math 1100, 1160 or equivalent (C-range grade or higher) Please see www.mathplacement.missouri.edu for complete details regarding College Algebra exemption and earning College Algebra credit by proctored ALEKS exam. <input type="checkbox"/> Writing Intensive (WI) 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 www.cwp.missouri.edu for writing intensive course options approved by semester. ENGLISH 1000 is a pre-requisite. <input type="checkbox"/> General Education Distribution 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 www.generaleducation.missouri.edu <input type="checkbox"/> Math Reasoning Proficiency (MRP) Must require college algebra as a pre-requisite (C-range grade or higher) <input type="checkbox"/> Intermediate Level 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) <input type="checkbox"/> Oral Communication Proficiency 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 <input type="checkbox"/> World International 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.
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Missouri Department of Elementary and Secondary Education Highly Qualified Teacher	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.																									
Dual Degree-Bachelor of Science in Chemistry through the College of Arts and Science	Review www.t2d2.missouri.edu website for opportunities for dual degree students Meet with Dr. John Adams, 125 Chemistry Bldg, adamsje@missouri.edu Declare dual degree by completing Transfer of Division Application Notify your College of Education Advisor that you will be pursuing a dual degree in Arts & Science																									
	Complete all coursework required for BS Ed PLUS: CHEM 2140 Organic Laboratory II CHEM 2400 Fundamentals of Inorganic Chemistry w/lab CHEM 3700 Undergraduate Seminar in Chemistry (writing intensive) CHEM 4800 (Capstone for BS in Chemistry)																									
Faculty Coordinator Dr. Marcelle Siegel 321K Townsend Hall 573-882-8695 siegelm@missouri.edu	Verify additional general education requirements for Arts & Science degree with an Arts & Science advisor. *A minimum of 132 credit hours is required for earning a dual degree	<input type="checkbox"/> Missouri Educator Gateway Assessments (MEGA) · Missouri Educator Profile · General Education Assessment · Standards-Based Performance Assessment · Content Area Assessments																								