

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

Basic Requirements (37-46hrs) 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 Physics Content Area (44-46hrs) 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>														
ENGLISH 1000*(C range grade)	3			Phase I (9hrs)*				Physics (19hrs)						
MATH 1100*(C range grade) or equivalent	0-3			LTC 1155 Orientation	1			PHYSICS 2750 University Physics I^						
WI (C range grade) _____	0-3			ESC_PS 2010 Inq Into Learning 1	3			PHYSICS 2760 University Physics II^						
Biological & Physical Sciences (fulfilled in content area)				ESC_PS 2014 IL I Field				1		PHYSICS 3150 Intro to Modern Physics^				
Mathematical Science (6hrs) (fulfills MRP requirement)				LTC 2040 Inq, Schls, Comm, & Soc 1				3		PHYSICS 4060 Advanced Phy Lab I^ (FS)				
MATH 1500 Calculus I	5			LTC 2044 ISCS I Field				1		PHYSICS 4080 Maj Themes in Class Phy^				
MATH1700 Calculus II	5			Phase II (20 hrs)** Fall Start Only				Elective Physics (12-14hrs)-Choose 4 of 6						
MATH 2300 Calculus III	3			Semester 1				PHYSICS 3010 Int to Mod Astroph (FS)						
MATH 4100 Diff. Equations	3			LTC 4560 Teaching Reading in Cont Area	2			PHYSICS 3100 Teaching Physics (strongly recommended)						
Social and Behavioral Science (9hrs)				LTC 4631 Teach Science in Sec Schools I (WI)				3		PHYSICS 4050 Electronic Laboratory I (SP)				
POL_SC 1100	3			LTC 4634 Teach Science in Sec Schools I Fld				1		PHYSICS 4110 Light and Modern Optics (SP)				
HIST 1100, 1200, or 2210	3			Semester 2				PHYSICS 4180 Solar System Science						
PSYCH 1000	3			SPC_ED 4020 Inquiry into Learning II				3		PHYSICS 4190 Phys & Chem of Materials (SP)				
Humanities and/or Fine Arts (9hrs)				LTC 4641 Teach Sci in Sec Schls: Phil, Hist...^				3		Biology (5hrs)				
COMMUN 1200* or equiv	3			LTC 4644 Teach Sci in Sec Schls: Phil, Hist Fld				1		BIO_SC 1500^ Intro to Bio Systems w/Lab				
	3			Semester 3				Chemistry (4hrs)						
	3			ED_LPA 4060 ISCS II				3		CHEM 1320 College Chemistry I^				
Intermediate Level (fulfilled in content)				LTC 4651 Teach Science in Sec Schools III				3		Earth Science (4hrs)				
World International (0-3hrs)				LTC 4654 Teach Science in Sec Schools III Fld				1		GEOL 1200 Env Geology w/ Lab^				
	0-3			Phase III (14hrs)				<i>See back for details regarding dual degree requirements</i>						
				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 req. for Graduation				Unified Science-Physics Endorsement (26-28hrs) GPA of 3.000 required in content										
				Complete all coursework required for Single Subject PLUS:										
				Biology (15-17hrs)				Chemistry (3hrs)						
				BIO_SC 2200 Genetics				4			CHEM 1330 College Chemistry II			
				BIO_SC 3650 Ecology				5			Earth Science (7hrs)			
				BIO_SC 4600 Evolution				3			ASTRON 1010 Intro to Astronomy			
Botany (BIO_SC 1200, 3210, 4400, 4320, 4660, or PLNT_S 4500)				3-5			ATM_SC 1050 Intro 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
<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.	LTC 4354 Middle School Science Field (SP)	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. ENGLSH 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.
	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			
Faculty Coordinator Dr. Marcelle Siegel 321K Townsend Hall 573-882-8695 siegelm@missouri.edu	Missouri Department of Elementary and Secondary Education Highly Qualified Teacher				<input type="checkbox"/> Missouri Educator Gateway Assessments (MEGA) · Missouri Educator Profile · General Education Assessment · Standards-Based Performance Assessment · Content Area Assessments
	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 Physics through the College of Arts and Science				
	Review www.t2d2.missouri.edu website for opportunities for dual degree students Meet with Dr. Dorina Kosztin, 224 Physics Bldg, kosztind@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				
	Verify additional general education requirements for Arts & Science degree with the advisor for Physics majors in the College of Arts & Science. *A minimum of 132 credit hours is required for earning a dual degree				