



MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION  
OFFICE OF EDUCATOR QUALITY – EDUCATOR PREPARATION

**PHYSICS, GRADES 9-12**

EDUCATOR PREPARATION PROGRAM NAME  
UNIVERSITY OF MISSOURI (COLUMBIA)

EDUCATOR PREPARATION PROGRAM CODE  
116116

**INSTRUCTIONS**

Please complete Educator Preparation Program (EPP) Name & EPP Code above.

**Certification Requirements:**

- Course Number – List the course number(s) for the course(s) or groups of competencies that align with the specific section of the requirements. It is possible to have more than one course or group listed.
- Course Title – List the course title(s) for the course(s) or groups of competencies that align with the specific section of the requirements. It is possible to have more than one course or group listed.
- Semester Hours – List the number of semester hours for each specific section. It is possible to use decimals (to the nearest tenth) to indicate partial use of a course to meet a requirement. The total number of semester hours must meet or exceed the minimum required number of semester hours.

Email the completed cover sheet, curriculum matrix, and advising/program information to [DESE.MoSPETtransition@dese.mo.gov](mailto:DESE.MoSPETtransition@dese.mo.gov) on or before the date established in the Transition Plan.

QUESTIONS: Contact Educator Preparation, 573-751-1668 or [DESE.MoSPETtransition@dese.mo.gov](mailto:DESE.MoSPETtransition@dese.mo.gov)

**A. Professional Requirements (Minimum of 26 semester hours)**

**1. Content Planning and Delivery**

	Course Number	Course Title	Semester Hours
a. Curriculum and Instructional Planning	LTC 1155 LTC 4631  LTC 4641	Orientation Teach. Sci. Second. Sch.: Phil., Hist., Sci. Inq., Curr., Assm. & Teach I Teaching Middle and Secondary Science II	1 See Below  See Below
b. Instructional Strategies and Techniques in Content Area Specialty	IS_LT 4467 LTC 4631  LTC 4641	Technology to enhance Learning Teach.Sci.Second.Sch.:Phil.,Hist., Sci.Inq.,Curr., Assm., & Teach I  Teaching Middle and Secondary Science II	3 1  0.5
c. Assessment, Student Data, and Data-Based Decision-Making	ES_PS 2010 ED_LPA 4060	Inquiry into Learning I Inquiry into Schools, Community & Society II	1 .75
d. Strategies for Content Literacy	SPC_ED 4020 LTC 4560	Teaching the Exceptional Learner Reading & Writing in the Content Area I	.75 See Below
e. Critical Thinking and Problem Solving	LTC 4631  LTC 4641	Teach.Sci.Second.Sch.:Phil.,Hist., Sci.Inq.,Curr., Assm., & Teach I  Teaching Middle and Secondary Science II	1  0.5
f. English Language Learning	LTC 4460	Teaching English to Speakers of Other Languages	3

**2. Individual Student Needs**

	Course Number	Course Title	Semester Hours
a. Psychological Development of the Child and Adolescent	ESC_PS 2010 LTC 2200	Inquiry into Learning I School Health & Student Wellbeing	1 1.5
b. Psychology/Education of the Exceptional Child	SPC_ED 4020	Teaching the Exceptional Learner	.75
c. Differentiated Learning	SPC_ED 4020	Teaching the Exceptional Learner	.75
d. Classroom Management	SPC_ED 4310	Behavioral Management for Exceptional Students	3
e. Cultural Diversity	LTC 2040 ED_LPA 4060 LTC 2200	Inquiry into Schools, Community & Society I Inquiry into Schools, Community & Society II School Health & Student Wellbeing	3 .75 1.5
f. Educational Psychology	ESC_PS 2010	Inquiry into Learning I	1

**3. Schools and the Teaching Profession**

	Course Number	Course Title	Semester Hours
a. Consultation and Collaboration	ED_LPA 4060	Inquiry into Schools, Community & Society II	.75

b. Legal/Ethical Aspects of Teaching	SPC_ED 4020 ED_LPA 4060	Teaching the Exceptional Learner Inquiry into Schools, Community & Society II	.75 .75
<b>4. Secondary Literacy (Minimum of six semester hours)</b>			
	<b>Course Number</b>	<b>Course Title</b>	<b>Semester Hours</b>
a. Reading and Writing in the Content Area	LTC 4560	Reading & Writing in the Content Area I	3
b. Instructional Interventions for Students with Reading Deficits	LTC 4565	Reading & Writing in the Content Area II	3
<b>Professional Requirements - Total Semester Hours</b>			<b>34</b>
<b>B. Field and Clinical Experiences (Minimum of ten semester hours)</b>			
	<b>Course Number</b>	<b>Course Title</b>	<b>Semester Hours</b>
1. Early Field Experiences (Minimum of one semester hour with a minimum of 30 clock hours)	ESC_PS 2014 LTC 2044	Inquiry into Learning I field Inquiry into Schools, Community & Society I field	1 1
2. Mid-Level Field Experiences (Minimum of one semester hour with a minimum of 45 clock hours)	LTC 4634 LTC 4644	Teaching Science in Sec Schools I field Teaching Science in Sec Schools: Phil, Hist field	1 1
3. Culminating Clinical Experiences (Minimum of eight semester hours with a minimum of 12 weeks in one placement)	LTC 4971	Internship & Capstone Seminar	12
<b>Field and Clinical Experiences - Total Semester Hours</b>			<b>16</b>
<b>C. Physics Content Knowledge Area (Minimum of 35 semester hours)</b>			
	<b>Course Number</b>	<b>Course Title</b>	<b>Semester Hours</b>
1. History/Philosophy of Science and Technology (three semester hours)	LTC 4631  LTC 4641	Teach.Sci.Second.Sch.:Phil.,Hist., Sci.Inq.,Curr., Assm., & Teach I  Teaching Middle and Secondary Science II	2  2
2. Physics Coursework – Minimum of 20 semester hours which must include:			
a. Mechanics	PHYSCS 2750 PHYSCS 3100	University Physics I Teaching Physics	4 2
b. Electricity and Magnetism	PHYSCS 2760 PHYSCS 3100	University Physics II Teaching Physics	5 1
c. Heat, Sound, and Light	PHYSCS 2330 PHYSCS 2750	Exploring the Principles of Physics University Physics I	4 1
d. Atomic or Modern Physics	PHYSCS 3150	Intro to Modern Physics	3
e. Physics Electives	PHYS 4050 or PHYS 4060 or PHYS 4120 or PHYS 4190	Electronics Lab or Advanced Physics Lab or Thermodynamics or Physics and Chemistry of Materials	4 or 3 or 3 or 3
3. Additional Science Coursework – Minimum of 12 semester hours which must include:			
a. Chemistry	CHEM 1320	College Chemistry I	4
b. Biology	BIO_SC 1500	Intro to Bio Systems w/ Lab	5
c. Earth Science	GEOL 1200	Environmental Geology w/ Lab	2
d. Environmental Science	GEOL 1200	Environmental Geology w/ Lab	2
<b>Content Knowledge Area - Total Semester Hours</b>			<b>40-41</b>

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