



**UNIFIED SCIENCE: BIOLOGY, 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.MoSPETransition@dese.mo.gov](mailto:DESE.MoSPETransition@dese.mo.gov) on or before the date established in the Transition Plan.

QUESTIONS: Contact Educator Preparation, 573-751-1668 or [DESE.MoSPETransition@dese.mo.gov](mailto:DESE.MoSPETransition@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	ESC_PS 2010 ED_LPA 4060	Inquiry into Learning I Inquiry into Schools, Community & Society II	1.0 0.75
d. Strategies for Content Literacy	SPC_ED 4020 LTC 4560	Teaching the Exceptional Learner Reading & Writing in the Content Area I	0.75 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	1.0 1.5
b. Psychology/Education of the Exceptional Child	SPC_ED 4020	Teaching the Exceptional Learner	0.75
c. Differentiated Learning	SPC_ED 4020	Teaching the Exceptional Learner	0.75
d. Classroom Management	SPC_ED 4310	Behavioral Management for Exceptional Children	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 0.75 1.5
f. Educational Psychology	ESC_PS 2010	Inquiry into Learning I	1.0

**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	0.75
b. Legal/Ethical Aspects of Teaching	SPC_ED 4020 ED_LPA 4060	Teaching the Exceptional Learner Inquiry into Schools, Community & Society II	0.75 0.75

4. Secondary Literacy (Minimum of six semester hours)			
	Course Number	Course Title	Semester Hours
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. Field and Clinical Experiences (Minimum of ten semester hours)			
	Course Number	Course Title	Semester Hours
1. Early Field Experiences (Minimum of one semester hour with a minimum of 30 clock hours)	ESC_PS 2014	Inquiry into Learning I field	1
	LTC 2044	Inquiry into Schools, Community & Society I field	1
2. Mid-Level Field Experiences (Minimum of one semester hour with a minimum of 45 clock hours)	LTC 4634	Teaching Science in Sec Schools I field	1
	LTC 4644	Teaching Science in Sec Schools II field	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>
C. Unified Science: Biology Content Knowledge Area (Minimum of 50 semester hours)			
	Course Number	Course Title	Semester Hours
1. History/Philosophy of Science and Technology (three semester hours)	LTC 4631	Teach.Sci.Second.Sch.:Phil.,Hist., Sci.Inq.,Curr., Assm., & Teach I	2
	LTC 4641	Teaching Middle and Secondary Science II	2
2. Biology – six semester hours which must include:			
a. Zoology with lab	BIO_SC 1500	Intro to Biological Systems w/ Lab	5
b. Botany with lab	BIO_SC 1200 Or	General Botany w/ Lab	1 Or
	BIO_SC 3210	Plant Systematics	4
3. Chemistry with labs (six semester hours)	CHEM 1320	College Chemistry I	4
	CHEM 1330	College Chemistry II	4
4. Physics with labs (six semester hours)	PHYSCS 1210	College Physics I	4
	PHYSCS 1220	College Physics II	4
5. Earth Science – six semester hours which must include:			
a. Geology	GEOL 1200	Environmental Geology w/ Lab	4
b. Meteorology	ATM_SC 1050	Introduction to Meteorology	3
6. Environmental Science (three semester hours)	BIO_SC 1060	Basic Environmental Studies	3
7. Additional Biology coursework – 20 semester hours which must include:			
a. Zoology	BIO_SC 3700 Or MPP 3202	Animal Physiology Elements of Physiology	2.5 Or 2.5
b. Botany	BIO_SC 1200	General Botany w/ Lab	4
c. Genetics	BIO_SC 2200	General Genetics	4
d. Cell/Biochemistry	BIO_SC 2300	Cell Biology	4
e. Microbiology	BIO_SC 3750	General Microbiology	3
f. Anatomy and Physiology	BIO_SC 3700 Or MPP 3202	Animal Physiology Elements of Physiology	2.5 Or 2.5
g. Ecology	BIO_SC 3650	General Ecology	5
h. Evolution	BIO_SC 4600	Introduction to Evolution	3
<b>Content Knowledge Area - Total Semester Hours</b>			<b>59-64</b>

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