



BIOLOGY GRADES 9-12 CURRICULUM MATRIX

EDUCATOR PREPARATION PROGRAM NAME UNIVERSITY OF CENTRAL MISSOURI	EDUCATOR PREPARATION PROGRAM CODE 121121
--	--

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 on or before the date established in the Transition Plan.

QUESTIONS: Contact Educator Preparation, 573-751-1668 or 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	EDFL 2100 STCH 4050	Introduction to the Teaching Profession Science Teaching Methods	0.5 0.5
b. Instructional Strategies and Techniques in Content Area Specialty	STCH 4050	Science Teaching Methods	1.5
c. Assessment, Student Data, and Data-Based Decision-Making	EDFL 2100 EDFL 4974	Introduction to the Teaching Profession Content Specific Assessment	1.0 1.0
d. Strategies for Content Literacy	STCH 4050 EDFL 4210	Science Teaching Methods Introduction to Content Area Literacy	1.0 0.5
e. Critical Thinking and Problem Solving	EDFL 2250	Intro to ELL and Culturally Responsive Pedagogy	0.5
	STCH 4080	Science Learning and Literacy	1.0
f. English Language Learning	EDFL 2250	Intro to ELL and Culturally Responsive Pedagogy	0.5
	STCH 4010	Exploring Firsthand Science Lessons	0.25

2. Individual Student Needs

	Course Number	Course Title	Semester Hours
a. Psychological Development of the Child and Adolescent	PSY 3220 -OR- PSY 2220 -OR- CFD 1220	Life-Span Development -OR- Child & Adolescent Psychological Development -OR- Child & Adolescent Development	3.0
b. Psychology/Education of the Exceptional Child	EDSP 2100	Education of the Exceptional Child	1.5
c. Differentiated Learning	EDSP 2100 EDFL 2250	Education of the Exceptional Child Intro to ELL and Culturally Responsive Pedagogy	1.0 0.5
	STCH 4010	Exploring Firsthand Science Lessons	0.5
d. Classroom Management	EDFL 4970	Secondary Teaching & Behavioral Management Content Specific Classroom Management	1.5
	EDFL 4973		1.0
e. Cultural Diversity	EDFL 2250	Intro to ELL and Culturally Responsive Pedagogy	0.5
	STCH 4010	Exploring Firsthand Science Lessons	0.25
f. Educational Psychology	EDFL 2240	Educational Psychology	3.0

3. Schools and the Teaching Profession

	Course Number	Course Title	Semester Hours
a. Consultation and Collaboration	EDFL 2100	Introduction to the Teaching Profession	1.0
b. Legal/Ethical Aspects of Teaching	EDFL 2100 EDSP 2100	Introduction to Teaching Profession Education of the Exceptional Child	0.5 0.5

4. Secondary Literacy (Minimum of 6 semester hours)			
	Course Number	Course Title	Semester Hours
a. Reading and Writing in the Content Area	EDFL 4210	Introduction to Content Area Literacy	1.0
	EDFL 4212	Literacy in the Disciplines I	1.0
	STCH 4080	Science Learning and Literacy	2.0
b. Instructional Interventions for Students with Reading Deficits	EDFL 4210	Introduction to Content Area Literacy	1.0
	EDFL 4212	Literacy in the Disciplines I	1.0
	EDFL 4972	Literacy in the Disciplines II	2.0
Professional Requirements - Total Semester Hours			31.5
B. Field and Clinical Experiences (Minimum of 10 semester hours)			
	Course Number	Course Title	Semester Hours
1. Early Field Experiences (Minimum of 1 semester hour with a minimum of 30 clock hours)	FLDX 2150	Introductory Field Experience	1.0
2. Mid-Level Field Experiences (Minimum of 1 semester hour with a minimum of 45 clock hours)	FLDX 3000	Field Experience in content area	1.0
	FLDX 4970	Field Experience II in Content Area	1.0
3. Culminating Clinical Experiences (Minimum of 8 semester hours with a minimum of 12 weeks in 1 placement)	FLDX 4595	Student Teaching Secondary I	4.0
	FLDX 4468	Student Teaching Secondary II	4.0
Field and Clinical Experiences - Total Semester Hours			11
C. Biology Content Knowledge Area (Minimum of 35 semester hours)			
	Course Number	Course Title	Semester Hours
1. History/Philosophy of Science and Technology (Minimum of 3 semester hours)	STCH 3020	Science and Engineering Practices	3.0
2. Biology Coursework – Minimum of 20 semester hours which must include			
a. Cell Biology	BIOL 2512	Cell Biology	3.0
	BIOL 1110	The Principles of Biology	1.5
b. Plant Form and Function	BIOL 1111	Plant Biology	4.0
	BIOL 1110	The Principles of Biology	0.75
	BIOL 2020	General Ecology	0.5
c. Animal Form and Function	BIOL 1112	Animal Biology	4.0
	BIOL 1110	The Principles of Biology	0.75
	BIOL 2020	General Ecology	0.5
d. Genetics	BIOL 3511	Genetics	4.0
e. Evolution	BIOL 4102	Evolution	3.0
f. Biology Electives	Choose 3-4 hours: BIOL 2010 BIOL 3401 BIOL 3431 BIOL 4411 BIOL 3611	Choose 3-4 hours Human Biology, 3 Human Anatomy, 3 Animal Physiology, 4 Plant Physiology, 4 Microbiology, 4	3.0-4.0
3. Additional Science Coursework – Minimum of 12 semester hours which must include			
a. Chemistry	CHEM 1131	General Chemistry I	4.5
b. Physics	PHYS 1101	College Physics I	4.0
	-OR- PHYS 1104	Introduction to Science: Physics	4.0
c. Earth Science	EASC 1004 OR GEOS 1004	Introduction to Geology OR Introduction to Geology	4.0
d. Environmental Science	BIOL 2020	General Ecology	2.0
	CHEM 1131	General Chemistry I	0.5
Content Knowledge Area - Total Semester Hours			43-44

The Department of Elementary and Secondary Education does not discriminate on the basis of race, color, religion, gender, national origin, age, or disability in its programs and activities. Inquiries related to Department programs and to the location of services, activities, and facilities that are accessible by persons with disabilities may be directed to the Jefferson State Office Building, Office of the General Counsel, Coordinator – Civil Rights Compliance (Title VI/Title IX/504/ADA/Age Act), 6th Floor, 205 Jefferson Street, P.O. Box 480, Jefferson City, MO 65102-0480; telephone number 573-526-4757 or TTY 800-735-2966 email civilrights@dese.mo.gov.