



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

CHEMISTRY, GRADES 9-12

EDUCATOR PREPARATION PROGRAM NAME Columbia College	EDUCATOR PREPARATION PROGRAM CODE 515712
--	--

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	EDUC 300 EDUC 365	Techniques of Teaching Teaching Middle School and Secondary Science	.75 1.5
b. Instructional Strategies and Techniques in Content Area Specialty	EDUC 300 EDUC 365	Techniques of Teaching Teaching Middle School and Secondary Science	.75 1.5
c. Assessment, Student Data, and Data-Based Decision-Making	EDUC 322	Educational Measurement and Assessment	3
d. Strategies for Content Literacy	EDUC 338	Content Reading and Writing	0
e. Critical Thinking and Problem Solving	EDUC 300 EDUC 375	Techniques of Teaching Advanced Content Methods	.75 1
f. English Language Learning	EDUC 400 or EDUC 220	Senior Seminar Or Methods of Teaching English Learners	0 3

2. Individual Student Needs

	Course Number	Course Title	Semester Hours
a. Psychological Development of the Child and Adolescent	EDUC 391 and 230 or EDUC 392 and 230 or EDUC 396	Child Psychology and Educational Psychology or Adolescent Psychology and Educational Psychology or Child and Adolescent Development	3
b. Psychology/Education of the Exceptional Child	EDUC 390	Education and Psychology of the Exceptional Child	1
c. Differentiated Learning	EDUC 375 EDUC 390	Advanced Content Methods Education and Psychology of the Exceptional Child	.75 1
d. Classroom Management	EDUC 311	Classroom and Behavior Management Techniques	1.5
e. Cultural Diversity	SOCI 270	Minority Cultures and Relations	3
f. Educational Psychology	EDUC 230	Educational Psychology	3

3. Schools and the Teaching Profession

	Course Number	Course Title	Semester Hours
a. Consultation and Collaboration	EDUC 100 EDUC 390	Introduction to Education Education and Psychology of the Exceptional Child	1.5 1.5
b. Legal/Ethical Aspects of Teaching	EDUC 200	Law, Ethics, and Education	3

4. Secondary Literacy (Minimum of 6 semester hours)			
	Course Number	Course Title	Semester Hours
a. Reading and Writing in the Content Area	EDUC 338	Content Reading and Writing	3
b. Instructional Interventions for Students with Reading Deficits	EDUC 376	Adolescent Literacy	3
Professional Requirements - Total Semester Hours			34.25 – 37.25
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)	EDUC 100	Introduction to Education	1.5
	EDUC 298	Field Experience	1
	EDUC 300	Techniques of Teaching	.75
	EDUC 311	Classroom and Behavior Management Techniques	1.5
2. Mid-Level Field Experiences (Minimum of 1 semester hour with a minimum of 45 clock hours)	EDUC 338	Content Reading and Writing	0
	EDUC 365	Teaching Middle School and Secondary Science	0
	EDUC 375	Advanced Content Methods	1
3. Culminating Clinical Experiences (Minimum of 8 semester hours with a minimum of 12 weeks in 1 placement)	EDUC 422 Or EDUC 425	Student Teaching in the Secondary School Or Undergraduate Student Teaching	12
Field and Clinical Experiences - Total Semester Hours			17.75
C. Chemistry 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)	HIST 303 or BIOL/CHEM/ENVS 105	Science, Technology, and Humanity: A History or Essentials of Science	3
2. Chemistry Coursework – Minimum of 20 semester hours which must include			
a. Inorganic Chemistry	CHEM 322	Inorganic Chemistry	3
b. Analytical Chemistry	CHEM 335	Quantitative Analysis	3
c. Organic Chemistry	CHEM 310	Organic Chemistry I	3
d. Physical Chemistry	CHEM/PHYS 401	Introduction to Physical Chemistry/Chemical Physics	3
e. Biochemistry	BIOL/CHEM 420	Biochemistry I	3
f. Chemistry Electives	Choose five hours from the following: CHEM 108 CHEM 109 CHEM 110 CHEM 112 CHEM 230 CHEM 307 CHEM 312 CHEM 395 CHEM 399 CHEM 412 CHEM 422 CHEM 425 CHEM 490 CHEM 499	Choose 5 hours from the following: Physical Science Survey Chemistry for Biological and Health-Related Sciences Chemistry I Chemistry II Environmental Toxicology and Chemistry Analytical Chemistry II Organic Chemistry II Research Design in the Sciences Science Internship Advanced Experimental Chemistry Biochemistry II Forensic Chemistry I Senior Seminar Advanced Science Internship	5

3. Additional Science Coursework – Minimum of 12 semester hours which must include			
a. Biology	BIOL 110	Principles of Biology I	3
b. Physics	PHYS 111	College Physics I	3
c. Earth Science	GEOL 110	Introduction to Physical Geology	3
d. Environmental Science	ENVS 115	Introduction to Environmental Science	3
Content Knowledge Area - Total Semester Hours			35

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.