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

BIOLOGY, GRADES 9-12 - GRADUATE

EDUCATOR PREPARATION PROGRAM NAME	EDUCATOR PREPARATION PROGRAM CODE
ROCKHURST UNIVERSITY	501839

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	ED 6030 ED 6260 ED 6500	Technology in Education Teaching Middle and Secondary School Science Curriculum Methods and Assessment in Secondary School	3
b. Instructional Strategies and Techniques in Content Area Specialty	ED 6030 ED 6260 ED 6500	Technology in Education Teaching Middle and Secondary School Science Curriculum Methods and Assessment in Secondary School	3
c. Assessment, Student Data, and Data-Based Decision-Making	ED 6260 ED 6500	Teaching Middle and Secondary School Science Curriculum, Methods, and Assessment in Secondary Education	3
d. Strategies for Content Literacy	ED 6020	Fundamentals of Literacy Learning	3
e. Critical Thinking and Problem Solving	ED 6020 ED 6030 ED 6260	Fundamentals of Literacy Learning Technology in Education Teaching Middle and Secondary School Science	3
f. English Language Learning	ED 6020 ED 6030 ED 6260 ED 6450	Fundamentals of Literacy Learning Technology in Education Teaching Middle and Secondary School Science Foundations of Special Education	3

2. Individual Student Needs

	Course Number	Course Title	Semester Hours
a. Psychological Development of the Child and Adolescent	ED 6400	Advanced Psychological Foundations	3
b. Psychology/Education of the Exceptional Child	ED 6450	Foundations of Special Education	3
c. Differentiated Learning	ED 6020 ED 6030 ED 6260 ED 6450 ED 7900	Fundamentals of Literacy Learning Technology in Education Teaching Middle and Secondary School Science Foundations of Special Education Student Teaching Seminar	3
d. Classroom Management	ED 6620 OR ED 6260	Foundations of Classroom Management Teaching Middle and Secondary School Science	2 3
e. Cultural Diversity	ED 6010 ED 6150 ED 6260 ED 6450	Foundations of Education Field Experience and Action Research Teaching Middle and Secondary School Science Foundations of Special Education	2 3 3 3
f. Educational Psychology	ED 6400	Advanced Psychological Foundations	3

3. Schools and the Teaching Profession

	Course Number	Course Title	Semester Hours
a. Consultation and Collaboration	ED 6010 ED 6450 ED 7900	Foundations of Education Foundations of Special Education Student Teaching Seminar	2 3 3

b. Legal/Ethical Aspects of Teaching	ED 6010 ED 6450 ED 7900	Foundations of Education Foundations of Special Education Student Teaching Seminar	2 3 3

4. Secondary Literacy (Minimum of six semester hours)			
	Course Number	**Course Title**	**Semester Hours**
a. Reading and Writing in the Content Area	ED 6020	Fundamentals of Literacy Learning	3
b. Instructional Interventions for Students with Reading Deficits	ED 6700	Methods of Diagnosing and Instruction for Remedial Reading	3
		Professional Requirements - Total Semester Hours	**31**
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)	ED 6260 ED 6500 ED 6620	Teaching Middle and Secondary Science Curriculum, Methods, Assessment Sec Ed Foundations of Classroom Management	1 45 clock hours
2. Mid-Level Field Experiences (Minimum of one semester hour with a minimum of 45 clock hours)	ED 6030 ED 6150 ED 6450	Technology in Education Field Experience and Action Research Foundations of Special Education	1 45 clock hours
3. Culminating Clinical Experiences (Minimum of eight semester hours with a minimum of 12 weeks in one placement)	ED 7850	Student Teaching in the Secondary School	9
		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 three semester hours)	PL 3850	Philosophy of Science	3
2. Biology Coursework – Minimum of 20 semester hours which must include:			
a. Cell Biology	BL 3620 BL 3621	Cell Biology Cell Biology lab	3 1
b. Plant Form and Function	BL 3350 BL 3351	Plant Biology Plant Biology Laboratory	2 1
c. Animal Form and Function	BL 3230 BL 3200	Animal Behavior Invertebrate Zoology	3 2
d. Genetics	BL 3610 BL 3611	Genetics Genetics Laboratory	3 1
e. Evolution	BL 4800	Evolution	3
f. Biology Electives;:		**Choose five credit hours from:**	
	BL 1260	General Biology I, Honors	3
	BL 1261	General Biology I Lab, Honors	1
	BL 1300	General Biology II	3
	BL 1301	General Biology II Laboratory	1
	BL 2929	Cellular Basis for Human Anatomy Physiology	1
	BL 3030	Human Anatomy and Physiology I	3
	BL 3031	Human Anatomy and Physiology I Laboratory	1
	BL 3040	Human Anatomy and Physiology II	3
	BL 3041	Human Anatomy and Physiology II Laboratory	1
	BL 3100	Microbiology	3
	BL 3101	Microbiology Laboratory	1
	BL 3200	Invertebrate Zoology	2
	BL 3201	Invertebrate Zoology Laboratory	1
	BL 3350	Plant Biology	2
	BL 3351	Plant Biology Laboratory	1
	BL 3400	Comparative Vertebrate Anatomy	3
	BL 3401	Comparative Vertebrate Anatomy Laboratory	1
	BL 3640	Bioinformatics	3
	BL 3650	Molecular Biology	2
	BL 3700	General Physiology	3
	BL 3701	General Physiology Laboratory	1
	BL 3900	Field Biology	2
	BL 3920	International Field Biology	3
	BL 3990	Research Projects, Introductory	1-3
	BL 4200	Parasitology: Global Issues and Perspectives	3
	BL 4600	Biotechnology	2
	BL 4601	Biotechnology Lab	1
	BL 4700	Principles of Immunology	2
	BL 4701	Prin. Of Immunology Lab	1
	BL 4810	Ecology	3
	BL 4811	Ecology Laboratory	1
	BL 4940	Biology capstone	1
	BL 4990	Research Projects, Advanced	1-3

3. Additional Science Coursework – Minimum of 12 semester hours which must include:		Coursework must include chemistry, physics, earth science, and environmental science. May not use a course to fulfill more than one requirement.	
a. Chemistry;		**Choose one 3 credit hour course**	
	CH 1050	Principles of General Chemistry	3
	CH 1060	Principles of General Chemistry Laboratory	1
	CH 2610	General Chemistry I	4
	CH 2630	General Chemistry II	4
	CH 2650	Honors General Chemistry and Laboratory	5
	CH 2710	Organic Chemistry I	3
	CH 2720	Organic Chemistry Laboratory I	1
	CH 2730	Organic Chemistry II	3
	CH 2740	Organic Chemistry Laboratory II	1
	CH 3310	General Biochemistry I	3
	CH 3320	Biochemistry Laboratory	1
	CH 3330	General Biochemistry II	3
	CH 3340	Biochemistry Laboratory II	1
	CH 3450	Analytical Chemistry	4
	CH 3510	Physical Chemistry I	3
	CH 3530	Physical Chemistry II	3
	CH 3560	Physical Chemistry Laboratory	1
	CH 3650	Nuclear Chemistry	2-3
	CH 3970	Chemistry Work Experience, Introductory	2
	CH 3990	Research Projects, Introductory	1-3
	CH 4430	Instrumental Analysis I	3
	CH 4450	Instrumental Analysis II	3
	CH 4620	Inorganic Chemistry	3
	CH 4810	Advanced Organic Chemistry	1-3
	CH 4820	Advanced Physical Chemistry	1-3
	CH 4830	Advanced Analytical Chemistry	1-3
	CH 4840	Advanced Biochemistry	1-3
	CH 4960	Chemical Literature and Seminar	1
	CH 4970	Chemistry Work Experience, Advanced	2
	CH 4990	Research Projects, Advanced	3
b. Physics;		**Choose one 3 credit hour course:**	
	PH 1200	The Art of Physics	3
	PH 1210	The Art of Physics Laboratory	1
	PH 1500	Basic Electricity and Electronics	2
	PH 1600	Introduction to Astronomy	3
	PH 1610	Introduction to Astronomy Laboratory	1
	PH 1700	Physics Concepts and Connections I	3
	PH 1710	Physics Concepts and Connections Laboratory I	1
	PH 1750	Physics Concepts and Connections II	3
	PH 1760	Physics Concepts and Connections Laboratory II	1
	PH 2300	The Phascination of Physics	3
	PH 2310	The Phascination of Physics Laboratory	1
	PH 2800	General Physics I	3
	PH 2810	General Physics Laboratory I	1
	PH 2850	Physics for Scientists and Engineers I	3
	PH 2860	Physics for Scientists and Engineers Laboratory I	1
	PH 2900	General Physics II	3
	PH 2910	General Physics Laboratory II	1
	PH 2920	Physics for Scientists Engineers Laboratory II	1
	PH 2940	Physics for Scientists and Engineers II	3
	PH 3240	Physics of Medical Imaging	3
	PH 3400	Thermodynamics	3
	PH 3500	Statics	3
	PH 3510	Physical Chemistry I	3
	PH 3530	Physical Chemistry II	3
	PH 3560	Physical Chemistry Laboratory	1
	PH 3710	Mathematical Methods in Physics	3
	PH 4000	Electric Circuits	3
	PH 4011	Electromagnetic Theory	1
	PH 4100	Dynamics	3
	PH 4111	Classical Mechanics Theory	1
	PH 4215	Advanced Laboratory	1
	PH 4400	Optics	3
	PH 4500	Modern Physics	3
	PH 4550	Quantum Mechanics	3
c. Earth Science;		**Choose one 3 credit hour course:**	
	NS 1500	Geological Sciences	3
	NS 1501	Geological Sciences Laboratory	1
d. Environmental Science;		**Choose one 3 credit hour course:**	
	NS 1210	Environmental Science	3
	NS 1220	Environmental Science Laboratory	1
		Content Knowledge Area - Total Semester Hours	**35**