



MATHEMATICS, GRADES 9-12

EDUCATOR PREPARATION PROGRAM NAME MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY	EDUCATOR PREPARATION PROGRAM CODE 116119
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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 3280	Instructional Strategies in the Content Areas	3
b. Instructional Strategies and Techniques in Content Area Specialty	EDUC 3280	Instructional Strategies in the Content Areas	
c. Assessment, Student Data, and Data-Based Decision-Making	EDUC 3340	Assessment of Student Learning	3
d. Strategies for Content Literacy	EDUC 3216 English 3170	Instructional Literacy in Content Area Teaching & Supervising Reading & Writing	3 3
e. Critical Thinking and Problem Solving	EDUC 3280 EDUC 3216 EDUC 1174 English 3170	Instructional Strategies in the Content Area Instructional Strategies in Content Area School Org & Administration Teaching & Supervising Reading & Writing	
f. English Language Learning	EDUC 3280 EDUC 1040 EDUC 3216 EDUC 1104 ED 2102/ Psych 2300 (co-listed) English 3170	Instructional Strategies in the Content Area Perspectives in Education Instructional Literacy in Content Area Teacher Field Experience I Educational Psychology Teaching & Supervising Reading & Writing	2
2. Individual Student Needs			
	Course Number	Course Title	Semester Hours
a. Psychological Development of the Child and Adolescent	Psych 3310	Developmental Psychology	3
b. Psychology/Education of the Exceptional Child	Psych 4310 or EDUC 4310 or 2310 (co-listed)	Psychology of the Exceptional Child	3
c. Differentiated Learning	EDUC 3280 EDUC 3216	Instructional Strategies in the Content Area Instructional Literacy in Content Area	
d. Classroom Management	EDUC 1174	School Org & Administration	2
e. Cultural Diversity	EDUC 4298 EDUC 1040 EDUC 3216 ED 2102/ Psych 2300 (co-listed) EDUC 3280	Student Teaching Seminar Perspectives in Education Instructional Strategies in Content Area Educational Psychology	1
f. Educational Psychology	EDUC 2102 or Psych 2300 (co-listed)	Instructional Strategies in the Content Areas Educational Psychology	3

3. Schools and the Teaching Profession			
	Course Number	Course Title	Semester Hours
a. Consultation and Collaboration	EDUC 3280 EDUC 3216 EDUC 1174 EDUC 1040 ED 2102/Psych 2300 (co-listed)	Instructional Strategies in the Content Areas Instructional Literacy in the Content Area School Org & Adm for Elem & Sec Teachers Perspectives in Education Educational Psychology	
b. Legal/Ethical Aspects of Teaching	EDUC 3280 EDUC 3216 EDUC 1174 EDUC 1040	Instructional Strategies in the Content Areas Instructional Literacy in the Content Area School Org & Administration Perspectives in Education	
4. Secondary Literacy (Minimum of six semester hours)			
	Course Number	Course Title	Semester Hours
a. Reading and Writing in the Content Area	EDUC 3216 English 3170	Instructional Literacy in the Content Area Teaching & Supervising Reading & Writing	
b. Instructional Interventions for Students with Reading Deficits	EDUC 3216 EDUC 3280 English 3170 EDUC 4298	Instructional Literacy in the Content Area Instructional Strategies in the Content Areas Teaching & Supervising Reading & Writing Student Teaching Seminar	
Professional Requirements - Total Semester Hours			26
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)	EDUC 1104	Teacher Field Experience I	1
2. Mid-Level Field Experiences (Minimum of one semester hour with a minimum of 45 clock hours)	EDUC 1164	Teacher Field Experience II	2
3. Culminating Clinical Experiences (Minimum of eight semester hours with a minimum of 12 weeks in one placement)	EDUC 4299	Student Teaching	12
Field and Clinical Experiences - Total Semester Hours			15
C. Mathematics Content Knowledge Area (Minimum of 36 semester hours)			
	Course Number	Course Title	Semester Hours
1. Calculus and Analytical Geometry (nine semester hours)	Math 1214 or 1210 + 1211	Calculus with Analytic Geometry I or TBA + TBA	4 or 4+4
	Math 1215	Calculus with Analytic Geometry II	4
	Math 2222	Calculus with Analytic Geometry III	4
2. Algebraic Structures (three semester hours)	Math 1120 or 1140	College Algebra	5 or 3
3. Geometry (three semester hours)	Math 4530	Topics in Geometry	3
4. Computer Science (three semester hours)	IS&T 1551 or	Implementing Information Systems: User Perspective or	3 or
	Comp Sci 1500 or 1570 or 1971 & 1981 or 1970 & 1980 or 1972 & 1982	Computational Problem Solving Intro to Programming or Intro to Programming Methodology/Lab or Basic Scientific Programming/Computer Programming Laboratory	2, 1 or 2, 1

5. Electives from the above coursework (six semester hours)	Math 1101 Math 2222 Math 3304 Math 1120 or 1140	Intro to Mathematics Calculus with Analytic Geo III Elementary Differential Equations College Algebra	1 3
	Math 1160 Choose two from upper electives: MATH 5302 MATH 5105 MATH 5106 MATH 5107 MATH 5108 MATH 5215 MATH 5222 MATH 5325 MATH 5351 MATH 5483 Math 5512 MATH 5585 MATH 5737 STAT 5643 STAT 5644 STAT 5346 STAT 5353 COMP SCI 3200 COMP SCI 5201 COMP SCI 5202	Trigonometry Intermediate Differential Equations Modern Algebra I Modern Algebra II Combinatorics And Graph Theory Linear Algebra II Introduction To Real Analysis Vector And Tensor Analysis Partial Differential Equations Introduction To Complex Variables Operational Calculus Differential Geometry Introduction To Topology Financial Mathematics Probability And Statistics Mathematical Statistics Regression Analysis Statistical Data Analysis Introduction To Numerical Methods Object-Oriented Numerical Modeling I Object-Oriented Numerical Modeling II	2 3, 3
6. Additional Mathematics coursework – Minimum of 12 semester hours to include at least three of the following areas of Mathematics:			
a. History of Mathematics (three semester hours)	Math 3109	Foundations of Mathematics	3
b. Structure of the Real Number System (three semester hours)	Math 4209	Advanced Calculus 1	3
c. Number Theory (three semester hours)			
d. Completion of Calculus Sequence (three semester hours)	4209 and 4211	Advanced Calculus 1 and 2	3
e. Probability and Statistics (three semester hours)	Stat 3113, 3115, 3117 or 5643	Applied Engineering Statistics, Engineering Statistics, Intro to Probability & Statistics or Probability and Statistics	3
f. Computer Science (three semester hours)	IS&T 1551 or Comp Sci 1500 or 1570 or 1971 & 1981 or 1970 & 1980 or 1972 & 1982	Implementing Information Systems: User Perspective or Computational Problem Solving or Intro to Programming or Intro to Programming Methodology/Lab or Basic Scientific Programming/Computer Programming Laboratory	3 or 2, 1 or 2,1 or 2,1
g. Linear Algebra (three semester hours)	Math 3108	Linear Algebra I	3
Content Knowledge Area - Total Semester Hours			49-55

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