



**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](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	EDUC 3280	Teaching Methods & Skills in Content Areas	6
b. Instructional Strategies and Techniques in Content Area Specialty	EDUC 3280	Teaching Methods & Skills in Content Areas	
c. Assessment, Student Data, and Data-Based Decision-Making	EDUC 3280	Teaching Methods & Skills in Content Areas	
d. Strategies for Content Literacy	EDUC 3216 English 3170	Teaching Reading in Content Area Teaching & Supervising Reading & Writing	3 3
e. Critical Thinking and Problem Solving	EDUC 3280 EDUC 3216 EDUC 1174 English 3170	Teaching Methods & Skills in Content Areas Teaching Reading in Content Area School Org & Adm for Elem & Sec Teachers Teaching & Supervising Reading & Writing	
f. English Language Learning	EDUC 3280 EDUC 1040 EDUC 3216 EDUC 1104 EDUC 2102 or Psych 2300 (co-listed) English 3170	Teaching Methods & Skills in Content Areas Perspectives in Education Teaching Reading in Content Area Teacher Field Experience 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 (co-listed)	Psychology of the Exceptional Child	3
c. Differentiated Learning	EDUC 3280 EDUC 3216	Teaching Methods & Skills in Content Areas Teaching Reading in Content Area	
d. Classroom Management	EDUC 1174	School Org & Adm for Elem & Sec Teachers	2
e. Cultural Diversity	EDUC 4298 EDUC 1040 EDUC 3216 EDUC 2102 or Psych 2300 (co-listed) EDUC 3280	Student Teaching Seminar Perspectives in Education Teaching Reading in Content Area Educational Psychology Teaching Methods & Skills in Content Areas	1    3
f. Educational Psychology	EDUC 2102 or Psych 2300 (co-listed)	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 EDUC 2102 or Psych 2300 (co-listed)	Teaching Methods & Skills in Content Areas Teaching Reading in 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	Teaching Methods & Skills in Content Areas Teaching Reading in Content Area School Org & Adm for Elem & Sec Teachers 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	Teaching Reading in Content Area Teaching & Supervising Reading & Writing	
b. Instructional Interventions for Students with Reading Deficits	EDUC 3216 EDUC 3280 English 3170 EDUC 4298	Teaching Reading in Content Area Teaching Methods & Skills in Content Areas Teaching & Supervising Reading & Writing Student Teaching Seminar	
<b>Professional Requirements - Total Semester Hours</b>			<b>26</b>
B. Field and Clinical Experiences (Minimum of 10 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	2
2. Mid-Level Field Experiences (Minimum of one semester hour with a minimum of 45 clock hours)	EDUC 1164	Aiding Elem, Middle & Sec Schools	2
3. Culminating Clinical Experiences (Minimum of eight semester hours with a minimum of 12 weeks in one placement)	EDUC 4299	Student Teaching	12
<b>Field and Clinical Experiences - Total Semester Hours</b>			<b>16</b>
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 Math 1215 Math 2222	Calculus with Analytic Geometry I Calculus with Analytic Geometry II Calculus with Analytic Geometry III	4 4 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  Comp Sci 1500 or Comp Sci 1570 or Comp Sci 1971/1981 or Comp Sci 1970/1980	Implementing Information Systems: User Perspective Computational Problem Solving Intro to Programming Intro to Programming Methodology/Lab  Basic Scientific Programming/Computer Programming Laboratory	3 or  3 or 3 or 2, 1 or  2, 1
5. Electives from the above coursework (six semester hours)	Math 1101 Math 2222 Math 3304 Math 1120 or 1140 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	Intro to Mathematics Calculus with Analytic Geo III Elementary Differential Equations College Algebra 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	1 3  2  3, 3

	MATH 5737 STAT 5643 STAT 5644 STAT 5346 STAT 5353 COMP SCI 3200 COMP SCI 5201 COMP SCI 5202	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	
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)	Math 4209 and 4211	Advanced Calculus 1 and 2	3
e. Probability and Statistics (three semester hours)	Stat 3113 or Stat 3115 or Stat 3117 or Stat 5643	Applied Engineering Statistics Engineering Statistics Intro to Probability & Statistics Probability and Statistics	3
f. Computer Science (three semester hours)	Can only count course toward elective hours if not already used to fulfill C.4. above: IS&T 1551 or  Comp Sci 1500 or Comp Sci 1570 or Comp Sci 1971/1981 or Comp Sci 1970/1980  or Comp Sci 1972/1982	Implementing Information Systems: User Perspective Computational Problem Solving Intro to Programming Intro to Programming Methodology/Lab or  Basic Scientific Programming/Computer Programming Laboratory  Intro to MATLAB Programming/Lab	3 or  3 or 2,1 or 2,1 or  2,1  2,1
g. Linear Algebra (three semester hours)	Math 3108	Linear Algebra I	3
<b>Content Knowledge Area - Total Semester Hours</b>			<b>48</b>

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