## SCIENCE, GRADES 5-9

## EDUCATOR PREPARATION PROGRAM NAME $\quad$ EDUCATOR PREPARATION PROGRAM CODE <br> Missouri University of Science \& Technology

## 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 grouplisted.
- 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 grouplisted.
- 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 45 semester hours)

1. Content Planning and Delivery

|  | Course Number | Course Title | Semester Hours |
| :---: | :---: | :---: | :---: |
| a. Curriculum and Instructional Planning | $\begin{aligned} & \text { EDUC } 3280 \\ & \text { EDUC } 3335 \end{aligned}$ | Teaching Methods \& Skills in Content Area Curriculum and Instruction of the Middle School | $\begin{aligned} & \quad x_{1} \\ & \hline \end{aligned}$ |
| b. Instructional Strategies and Techniques in Content Area Specialty | EDUC 3280 | Teaching Methods \& Skills in Content Area |  |
| c. Assessment, Student Data, and Data- Based Decision-Making | EDUC 3340 | Assessment of Student Learning | 3 |
| d. Strategies for Content Literacy | $\begin{aligned} & \hline \text { EDUC } 3216 \\ & \text { English } 3170 \end{aligned}$ | Teaching Reading in Content Area Teaching \& Supervising Reading \& Writing |  |
| e. Critical Thinking and Problem Solving | EDUC 3280 <br> EDUC 3216 <br> EDUC 1174 <br> English 3170 | Teaching Methods \& Skills in Content Areas Teaching Reading in Content Area School Org \& Adm for Elem \& Sec Teachers Teaching \& Supervising Reading \& Writing or | 2 |
| 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 <br> 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 Psych | 3 |
| b. $\begin{aligned} & \text { Psychology/Education of the } \\ & \text { Exceptional Child }\end{aligned}$ | $\begin{aligned} & \hline \text { EDUC } 4310 \text { or } \\ & \text { Psych } 4310 \\ & \hline \end{aligned}$ | Psychology of the Exceptional Child |  |
| c. Differentiated Learning | $\begin{aligned} & \hline \text { EDUC } 3216 \\ & \text { EDUC } 3280 \end{aligned}$ | Teaching Reading in Content Area Teaching Methods \& Skills in Content Area |  |
| d. Classroom Management | EDUC 3216 <br> EDUC 1174 | Teaching Reading in Content Area School Org \& Adm for Elem \& Sec Teachers |  |
| e. Cultural Diversity | EDUC 4298 EDUC 1040 EDUC 3216 EDUC 2102 or Psych 2300 (co-listed) EDUC 3280 | Student Teaching Seminar <br> Perspectives in Education <br> Teaching Reading in Content Area <br> Educational Psych <br> Teaching Methods \& Skills in Content Areas | 1 |
| f. Educational Psychology | EDUC 2102 or Psych 2300 | Educational Psychology |  |


| 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 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 <br> EDUC 3216 <br> EDUC 1174 <br> EDUC 1040 <br> EDUC 3340 | Teaching Methods \& Skills in Content Areas Teaching Reading in Content Area School Org \& Adm for Elem \& Sec Teachers Perspectives in Education Assessment of Student Learning |  |
| c. Middle School Philosophy and Organization | EDUC 3335 | Curriculum and Instruction of the Middle School |  |
| 4. Middle School Literacy (Minimum of 6 semester hours) |  |  |  |
|  | Course Number | Course Title | Semester Hours |
| a. Reading and Writing in the Content Area | English 3170 <br> EDUC 3216 | Teaching \& Supervising Reading \& Writing Teaching Reading in Content Area | 3 |
| b. Instructional Interventions for Students with Reading Deficits | $\begin{gathered} \text { EDUC } 3216 \\ \text { EDUC } 3280 \\ \text { English } 3170 \\ \text { EDUC } 4298 \end{gathered}$ | Teaching Reading in Content Area Teaching Methods \& Skills in Content Areas Teaching \& Supervising Reading \& Writing Student Teaching Seminar | 3 |
| 5. Content Knowledge for Teaching (Minimum of 24 semester hours with appropriate distribution in one of the following certificate subject areas) |  |  |  |
|  | Course Number | Course Title | Semester Hours |
| a. Agricultural Education |  |  |  |
| b. Business Education | BUS 1110 BUS 1210 BUS 2910 MKT 3110 or MKT 5310 BUS 3220 Is\&T 1551 or IS\&T 1750 ECON 1100 or ECON 1200 FINANCE 2150 | Intro to Management and Entrepreneurship <br> Financial Accounting <br> Business Law <br> Marketing or <br> Digital Marketing and Promotions Marketing <br> Managerial Accounting <br> Implementing Information Systems: User <br> Perspective OR <br> Into to MIS <br> Principles of Microeconomics OR <br> Principles of Macroeconomics <br> Corporate Finance I | $\begin{aligned} & \hline 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & \hline \end{aligned}$ |
| c. Technology and Engineering |  |  |  |
| d. Language Arts | English 1120 <br> English 1160 <br> English 2241 <br> English 2245 <br> English 2247 <br> English 3220 <br> English 3221 <br> English 3222 <br> English 3223 <br> English 3224 <br> English 3225 <br> English 3226 <br> English 3227 <br> English 3210 <br> English 3214 <br> English 3215 <br> English 3217 <br> English 3218 <br> English 3219 <br> English 3233 <br> EDUC 3430 or <br> English 2240 | Exposition And Argumentation <br> Writing And Research <br> REQUIRED: 12 hours from the following: <br> Literature for Adolescents <br> African American Literature <br> Am Crime And Detective Fiction <br> Early American Literature <br> American Poetry I <br> The American Renaissance <br> American Poetry II <br> Southern Culture <br> The American Novel I <br> The American Novel II <br> American Gothic <br> Survey Of Old \& Middle Eng Lit <br> The Plays Of William Shakespeare <br> The Restoration \& $18^{\text {th }}$ Century <br> Victorian Literature <br> The British Novel I <br> The British Novel II <br> Contemporary British Literature <br> Children's Literature or <br> Children's Literature | $\begin{gathered} 3 \\ 3 \\ 12 \end{gathered}$ |


|  | English 1170 <br> English 2171 or English 2172 <br> English 3301 or English 3302 or <br> English 3303 | REQUIRED: 12 hours including: <br> Creative Writing <br> One of the following: <br> Fiction Writing OR <br> Creative Nonfiction Writing <br> Two of the following: <br> A Linguistic Study Of Modern English OR History And Structure Of The English <br> Language OR <br> The Grammatical Structure of English |  |
| :---: | :---: | :---: | :---: |
| e. Mathematics | Math 3922/EDUC 3222 <br> Math 1103 <br> Math 1120 or 1140 <br> Math 1160 <br> Math 1208 or <br> Math 1214 or <br> 1210+1211 <br> Math 1215 or <br> Math 1221 or <br> Math 1212 <br> Stats 1115 or <br> Stat 3113 or Stat 3115 <br> IS\&T 1551 or <br> Comp Sci 1500 or <br> Comp Sci 1971/1981 <br> or <br> Comp Sci 1570 or Comp Sci 1970/1980 or <br> Comp Sci 1972/1982 | Geometric Concepts for Elementary Teachers <br> Fundamentals of Algebra <br> College Algebra <br> Trigonometry <br> Calculus with Analytic Geometry I OR <br> Calculus For Engineers I or TBA+TBA <br> Calculus For Engineers II OR <br> Calculus With Analytic Geometry II OR <br> Business Calculus and Lab <br> Stats for the Social Sciences OR <br> Applied Engineering Stats OR <br> Engineering Statistics <br> Implementing Information Systems: User <br> Perspective OR <br> Computational Problem Solving OR <br> Intro to Programming Methodology/Lab OR <br> Intro to Programming OR <br> Basic Scientific Programming/Computer <br> Programming Lab OR <br> Intro to MATLAB Programming/Lab | 3 3 3 or 5 2 4 or 5 or $4+4$ 4 or 5 3 3 or 2,1 |
| f. Science | History 3530 EDUC 3001 or Hist 3555 or Philos 4345 Geology 1110 Geology 1120 Physics 1505 or Physics 1145 Bio Sci 1113 or Bio Sci 1213 Bio Sci 1219 Bio Sci 1173 Chem 1310 Chem 1319 | History of Science OR <br> Diversity and Equity in STEM Education: <br> Yesterday, Today, and Tomorrow OR History <br> of Medieval and Early Modern Science or <br> Philosophy Of Science <br> Physical and Environmental Geology <br> Evolution of the Earth <br> Introductory Astronomy OR <br> College Physics <br> General Biology OR <br> Principles of Biology <br> General Biology Lab <br> Intro to Environmental Sciences <br> General Chemistry <br> General Chemistry Lab | $3$ <br> 3 3 <br> 3 <br> 3 <br> 2 3 <br> 4 |
| g. Social Science | History 1300 or History 1310 <br> History 1100 or History 1200 <br> Pol Sci 1200 History 2110 <br> Economics 1100 or 1200 <br> History 1300 | American History to 1877 OR <br> American History Since 1877 <br> Early Western Civilization OR <br> Modern Western Civilization <br> American Government <br> World Regional Geography <br> Principles of Microeconomics OR <br> Macroeconomics <br> Choose one American History elective not already counted in top section above: <br> American History to 1877 | $3$ <br> 3 <br> 3 3 <br> 3 <br> 3 |


|  | History 1310 <br> History 3763 <br> History 3420 <br> History 3443 <br> History 3760 <br> History 3321 <br> History 3320 <br> History 3325 <br> History 3340 <br> History 3345 <br> History 3360 <br> History 3450 <br> History 3425 <br> History 3426 <br> History 4435 <br> History 4470 <br> History 3440 <br> History 3441 <br> History 3442 <br> History 3761 <br> History 3762 <br> History 1100 <br> History 1200 <br> History 2220 <br> History 2221 <br> History 2222 <br> History 2224 <br> History 2210 <br> History 3660 <br> History 2430 <br> History 3150 <br> History 3120 <br> History 3125 <br> History 3130 <br> History 3135 <br> History 3140 <br> History 4145 <br> History 3230 <br> History 3235 <br> History 3240 <br> History 4246 <br> History 3280 <br> History 4245 <br> History 4550 <br> History 3665 | American History Since 1877 <br> Contemporary Political Thought <br> History of Missouri <br> The American Military Experience <br> The American Presidency <br> Religion And Witchcraft In Early America <br> Colonial America <br> Revolutionary America, 1754-1789 <br> Age Of Jefferson And Jackson <br> Civil War And Reconstruction <br> Recent United States History <br> American Intellectual History II <br> History Of The Old South <br> History Of The Modern South <br> History of the American West <br> American Environmental History <br> 20th Century Americans In Combat <br> The United States in Vietnam <br> The United States In World War II <br> U.S. Diplomatic History to World War II <br> American Diplomatic History Since World <br> War II <br> Choose two World History electives not already counted in top section above: <br> Early Western Civilization <br> Modern Western Civilization <br> Making Of Modern Britain <br> Making of Modern Germany <br> The Making Of Modern France <br> Making Of Modern Russia <br> European Diplomatic History 1814 - Present <br> Modern East Asia <br> History of the American Pacific <br> Tudor And Stuart England <br> Ancient Greece <br> Ancient Rome <br> Medieval History I <br> Medieval History II <br> History Of Renaissance Thought <br> The Reformation <br> Europe In The Age Of The French Revolution <br> And Napoleon <br> Foundations Of Contemporary Europe 18151914 <br> Contemporary Europe <br> War \& Society in Twentieth-Century Europe <br> European Migrations and Nationalism <br> Formation <br> Nazi Germany and the Holocaust <br> Architecture, Technology and Society; 1750 <br> to Present <br> History of Japan | 6 |
| :---: | :---: | :---: | :---: |
| h. Speech/Theatre |  |  |  |
| Professional Requirements - Total Semester Hours |  |  | 50-56 |
| 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 1104 | Teacher Field Experience | 1 |
| 2. Mid-Level Field Experiences (Minimum of 1 semester hour with a minimum of 45 clock hours) | EDUC 1164 | Aiding Elementary, Middle, and Secondary Schools | 2 |
| 3. Culminating Clinical Experiences (Minimum of 8 semester hours with a minimum of 12 weeks in 1 placement) | EDUC 4299 | Student Teaching | 12 |
| Field and Clinical Experiences - Total Semester Hours |  |  | 15 |



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