

EDUCATION

The mission of the department of education is to train empowered, empathetic educators. The vision of the department is our teachers inspire the next generation of students to pursue educational and STEAM career fields by connecting content knowledge to real world application, while creating a safe learning space for students.

Most programs may be completed in four academic years, although you may wish to carry lighter course loads during the regular academic semesters. Admission to the university does not automatically qualify a student to participate in the professional component of the teacher education program. That participation is granted upon demonstration of a high level of academic and professional competence. To be admitted to certification programs, you must maintain a 3.0 GPA in your education courses and a 2.5 GPA in your content courses; have received a DESE substitute certificate; and complete an interview with the department chair or designated faculty members. You must also have a cleared background check for any field experiences.

The last semester of your certification program will be student teaching; all other coursework must be successfully completed to be eligible. You must pass the appropriate Praxis II exam before applying to student teaching. For other guidelines for student teaching, please refer to the department handbook.

For the most current information on certification requirements, please see the department's webpage: <https://education.mst.edu>

All certification programs are approved by the Missouri Department of Elementary and Secondary Education. If you want to teach in another state, you should investigate the reciprocity regulations for educator licensure or certification.

Early Childhood

In Missouri, early childhood certification spans birth through third grade; you will have the opportunity to be placed in the S&T Child Development Center for field experiences. You will earn a bachelor of science in education with an emphasis in early childhood education; select courses in this degree may be used for the national Child Development Associate credential. For a list of required courses, please see the early childhood section of the department webpage.

Educational Studies

The Educational Studies emphasis is for students who want to work in informal educational settings such as museums and other nonprofit organizations or those who want to work in instructional design. This emphasis area does not lead to Missouri teacher certification. This emphasis area offers flexibility for you to create a personalized degree that matches your interests.

Elementary Education

In Missouri, elementary teacher certification spans grades 1-6. You will earn a bachelor of science degree in education with an emphasis in elementary education. Graduates of this program will have the knowledge of science, technology, engineering, art and mathematics (STEAM) to share with 1st through 6th grade students. Project Lead The Way: Launch classroom teacher certification is embedded in the emphasis. For a list of required courses, please see the elementary section of the department webpage.

Middle School Education

In Missouri, middle school certification spans grades 5-9. You will earn a bachelor of science degree with a teaching certificate for one of the following areas:

English Language Arts
Mathematics
Science
Social Studies

You must take at least 24 credit hours in your content area and the required education courses. For a list of approved courses, please see the department of education website.

Secondary Education

At S&T, you will earn a degree in your content area while pursuing secondary teaching certification. See the degree requirements for those departments in the catalog for more information.

Applied Mathematics
Biological Sciences
Business and Management Systems
Chemistry
English and Technical Communication
Environmental Science
Physics
Social Science*

*History and Psychological Science degrees are eligible for this certification, if coursework requirements are fulfilled.

World Language Education

Students may earn French or Spanish teaching certification through the Bachelor of Arts in Multidisciplinary Studies. In Missouri, this teaching certificate is grades K-12. For a list of approved courses, please see the department of education website.

General Education Requirements

General education requirements are intended to provide you with the intellectual knowledge and skills for basic education. This body of knowledge and skills is arranged according to two broad categories: systems of symbolic thought and communication represented by linguistic and mathematical studies and systems of intellectual inquiry represented by basic academic disciplines. In addition, you must complete one course or unit in cultural diversity and the general education requirements can be fulfilled at the same time. Students must complete the general education requirements as stated in the catalog, as applicable to the student's catalog year.

The following are generic requirements for all education students. However, any degree requirement not included in these general education requirements must be included in the professional requirements or subject matter requirements for each degree program.

Symbolic Thought and Communications

- 1. **Communication Studies** (6 credit hours) You are required to take two courses in communications as stated in the catalog for general education requirements.
- 2. **Mathematical Studies** (3 credit hours) The course must be college algebra or above as stated in the catalog for general education requirements.

Systems of Intellectual Inquiry

- 1. **Humanities and Fine Arts** as stated in the catalog for general education requirements.
- 2. **Natural Science** One course in biological sciences and one in physical sciences. A laboratory is also required. As stated in the catalog for general education requirements.
- 3. **Social and Behavioral Science** as stated in the catalog for general education requirements.

Missouri Department of Elementary and Secondary Education Approved Programs

The following programs are approved by the Missouri Department of Elementary and Secondary Education for initial teacher certification. If you are interested in teaching in another state, you should investigate the reciprocity agreement for educator licensure or certification.

- Early Childhood Education (birth-grade 3)
- Elementary Education (grades 1-6)
- Middle School Education:
 - Language Arts (grades 5-9)
 - Mathematics (grades 5-9)
 - Science (grades 5-9)
 - Social Studies (grades 5-9)
- Secondary Education:
 - Applied Mathematics (grades 9-12)
 - Biological Sciences (grades 9-12)
 - Business and Management Systems (grades 9-12)
 - Chemistry (grades 9-12)
 - English and Technical Communication (grades 9-12)
 - Environmental Science (grades 9-12)
 - Physics (grades 9-12)
 - Social Science (grades 9-12) (History or Psychological Science degrees eligible)

Note: If changes occur at the state level, then the state’s education requirements will supersede those in the catalog and DO NOT fall under the grandfather clause.

Bachelor of Science in Education Overview

The Department of Education offers a degree in education with options for emphases in early childhood (birth-grade 3), elementary (grades 1-6), middle school language arts, middle school mathematics, middle school science, or middle school social science. The educational studies emphasis area offers an option for students working in informal contexts outside of public schools.

Students must complete a minimum of 120 hours for a Bachelor of Science in Education.

All students take the core education curriculum; these courses include multiple field experience courses which requires them to observe and teach lessons in schools. The final semester of certification programs is student teaching when students are immersed full time in a school setting for 16 weeks, except for the educational studies emphasis area.

The Missouri Department of Elementary and Secondary Education approves the curricula of certification programs. Any substitutions for content or education coursework must be approved by the Department of Education. Students intended to earn a teaching certificate must also pass the appropriate Praxis exam and meet the GPA requirements to be eligible for student teaching and certification.

Program Learning Outcomes

The program learning outcomes are the Missouri Teacher Standards. These are the same standards principals use to evaluate practicing teachers in Missouri. These outcomes are assessed throughout the program and in the student teaching experience; students must demonstrate evidence of satisfactory progress on each outcome.

Missouri S&T education program graduates will . . .

- 1. Create learning experiences that make the subject matter meaningful and engaging for all students.
- 2. Provide learning opportunities that are adapted to diverse learners and support the intellectual, social, and personal development of all students.
- 3. Develop, implement, and evaluate curriculum based upon student, district and state standards
- 4. Use a variety of instructional strategies and resources to encourage students’ critical thinking, problem solving, and performance skills
- 5. Create a learning environment that encourages active engagement in learning, positive social interaction, and self-motivation.
- 6. Model effective verbal, nonverbal, and media communication techniques with students, colleagues and families to foster active inquiry, collaboration, and supportive interaction in the classroom.
- 7. Monitor the performance of each student through formative and summative assessment strategies, and devises instruction to enable students to grow and develop, making adequate academic progress.
- 8. Continually assess the effects of choices and actions on others and seek out opportunities to grow professionally.
- 9. Have effective working relationships with students, parents, school colleagues, and community members

Core Curriculum

EDUC 1104	Teacher Field Experience I	1
EDUC 1074	Foundations of Education in a Diverse Society	3
EDUC 1164	Teacher Field Experience II	2
EDUC 2102	Educational Psychology	3
or PSYCH 2300	Educational Psychology	
EDUC 2310	Education Of The Exceptional Child	3
or PSYCH 4310	Psychology Of The Exceptional Child	
EDUC 3216	Instructional Literacy in the Content Area	3

EDUC 3340	Assessment of Student Learning	3
PSYCH 3310	Developmental Psychology	3
EDUC 4298	Student Teaching Seminar	1
EDUC 4299	Student Teaching	12
Total Credits		34

Students must complete the General Education Requirements as stated in the catalog, as applicable to the student's catalog year.

ENGLISH 1120	Exposition And Argumentation	3
ENGLISH 1160	Writing And Research	3
or SP&M S 1185	Principles Of Speech	
Math General Education Course		3
Natural Science Courses in Two Disciplines including a minimum 1 credit hour lab		7
Humanities, Arts, and Social Science Courses		12
HISTORY 1200	Modern Western Civilization	3
or POL SCI 1200	American Government	
Total Credits		31

Emphasis Area: Educational Studies

This emphasis is for students who want to work in educational settings outside of K-12 public schools. Potential career settings include nonprofit organizations, state agencies, childcare, museums, youth development, and more. This flexible emphasis area is designed to combine educational theories with applications in informal educational environments and does not result in teacher certification.

Students must complete the general education requirements and the education core curriculum (34 credit hours) with the exception of student teaching, which should be substituted with additional education courses aligned to the student's career goals. Each student will elect sufficient additional courses to complete a minimum of 120 credit hours; these may be in other disciplines. As this degree does not result in certification, students are not required to meet Missouri Department of Elementary and Secondary Education requirements.

Emphasis Area: Early Childhood

An early childhood certificate allows students to teach children from birth through third grade in the state of Missouri.

EDUC 1055	Introduction to Early Childhood Education	3
EDUC 1221	Health, Nutrition, and Safety in Early Childhood Education	3
EDUC 1820	Early Childhood Program Management	3
EDUC 2401	School, Family, and Community Partnerships	3
EDUC 2440	Observation and Assessment of Young Children	3
EDUC 3203	Introduction to STEM Education	3
EDUC 3211	Child Development	3
EDUC 3215	Teaching Reading in Elementary and Early Childhood Settings	3
EDUC 3217	Analysis and Correction of Reading Difficulties	3
EDUC 3218	Language Arts for Elementary and Early Childhood Teachers	3
EDUC 3220	Teaching Science in the Elementary and Early Childhood Classroom	3
EDUC 3221	Methods of Teaching Math	3
EDUC 3430	Diverse Literature for Children	3
EDUC 3530	Teaching Integrated Social Studies and Humanities	3

Students will elect sufficient additional courses to complete a minimum of 120 credit hours in consultation with their advisor.

Emphasis Area: Elementary

An elementary certificate allows students to teach grades 1-6 in the state of Missouri.

EDUC 3215	Teaching Reading in Elementary and Early Childhood Settings	3
EDUC 3217	Analysis and Correction of Reading Difficulties	3
EDUC 3218	Language Arts for Elementary and Early Childhood Teachers	3
EDUC 3220	Teaching Science in the Elementary and Early Childhood Classroom	3
EDUC 3221	Methods of Teaching Math	3
EDUC 3222	Geometric Concepts for Teachers	3
EDUC 3203	Introduction to STEM Education	3
EDUC 3430	Diverse Literature for Children	3
EDUC 3530	Teaching Integrated Social Studies and Humanities	3
Total Credits		27

Students will elect sufficient additional courses to complete a minimum of 120 credit hours in consultation with their advisor.

Emphasis Area: Middle School Language Arts

A middle school certificate allows graduates to teach grades 5-9 in the designated subject area. Students must have a 2.5 GPA in their content area coursework.

EDUC 3215	Teaching Reading in Elementary and Early Childhood Settings	3
EDUC 3280	Instructional Strategies in the Content Area	3
EDUC 3335	Curriculum And Instruction Of The Middle School	3
ENGLISH 2171	Fiction Writing	3
or ENGLISH 2172	Creative Nonfiction Writing	
EDUC 3298	Teacher Field Experience III	1
ENGLISH 3302	History And Structure Of The English Language	3
ENGLISH 3303	The Grammatical Structure of English	3
or ENGLISH 3301	A Linguistic Study Of Modern English	
ENGLISH 1170	Creative Writing	3
EDUC 3170	Teaching Reading and Writing in Middle/High School	3
4 Literature Electives at 2000 level or above		12
Total Credits		37

Students will elect sufficient additional courses to complete a minimum of 120 credit hours in consultation with their advisor.

Emphasis Area: Middle School Mathematics

A middle school certificate allows graduates to teach grades 5-9 in the designated subject area. Students must have a 2.5 in the designated coursework.

EDUC 3280	Instructional Strategies in the Content Area	3
EDUC 3170	Teaching Reading and Writing in Middle/High School	3
EDUC 3298	Teacher Field Experience III	1
EDUC 3335	Curriculum And Instruction Of The Middle School	3
EDUC 3203	Introduction to STEM Education	3
EDUC 3222	Geometric Concepts for Teachers	3
MATH 1103	Fundamentals Of Algebra	3
MATH 1120	College Algebra	3-5
or MATH 1140	College Algebra	
MATH 1208	Calculus With Analytic Geometry I	4-5
or MATH 1214	Calculus I	
or MATH 1210	Calculus I-A	

EDUC 3221	Methods of Teaching Math	3
MATH 1215	Calculus II	4-5
or MATH 1221	Calculus With Analytic Geometry II	
or MATH 1211	Calculus I-B	
or MATH 1212	Survey of Calculus	
COMP SCI 1500	Computational Problem Solving	3
or IS&T 1551	Implementing Information Systems: User Perspective	
STAT 1115	Statistics For The Social Sciences I	3
or STAT 3113	Applied Engineering Statistics	
or STAT 3115	Engineering Statistics	
Total Credits		39-43

Students will elect sufficient additional courses to complete a minimum of 120 credit hours in consultation with their advisor.

Emphasis Area: Middle School Science

A middle school certificate allows graduates to teach grades 5-9 in the designated subject area. Students must have a 2.5 GPA in the designated coursework.

EDUC 3280	Instructional Strategies in the Content Area	3
EDUC 3170	Teaching Reading and Writing in Middle/High School	3
EDUC 3335	Curriculum And Instruction Of The Middle School	3
EDUC 3203	Introduction to STEM Education	3
EDUC 3220	Teaching Science in the Elementary and Early Childhood Classroom	3
BIO SCI 1113	General Biology	3
or BIO SCI 1213	Principles of Biology	
EDUC 3298	Teacher Field Experience III	1
BIO SCI 1219	General Biology Lab	1
BIO SCI 1173	Introduction to Environmental Sciences	3
PHYSICS 1505	Introductory Astronomy	3-4
or PHYSICS 1145	College Physics I	
GEOLOGY 1110	Physical and Environmental Geology	3
GEOLOGY 1120	Evolution Of The Earth	3
HISTORY 3530	History of Science	3
or PHILOS 4345	Philosophy Of Science	
CHEM 1310	General Chemistry I	4
CHEM 1319	General Chemistry Laboratory	1
BIO SCI 2223	General Genetics	3
Total Credits		43-44

Students will elect sufficient additional courses to complete a minimum of 120 credit hours in consultation with their advisor.

Emphasis Area: Middle School Social Science

An middle school certificate allows graduates to teach grades 5-9 in the designated subject area.

EDUC 3280	Instructional Strategies in the Content Area	3
EDUC 3170	Teaching Reading and Writing in Middle/High School	3
EDUC 3335	Curriculum And Instruction Of The Middle School	3
EDUC 3530	Teaching Integrated Social Studies and Humanities	3
EDUC 3350	Social Studies In The Elementary School	3
HISTORY 1100	Early Western Civilization	3
or HISTORY 1200	Modern Western Civilization	
EDUC 3298	Teacher Field Experience III	1
HISTORY 1300	American History To 1877	3
or HISTORY 1310	American History Since 1877	
PSYCH 4600	Social Psychology	3

DESE Approved American History elective	3
DESE Approved World History Electives	6
History Elective	3
Total Credits	37

Students will elect sufficient additional courses to complete a minimum of 120 credit hours in consultation with their advisor.

Teaching and Learning Undergraduate Certificate

This certificate is designed to give students background in important educational concepts such as instructional design, learner engagement, assessment, diversity, and inclusion. This would be helpful for students who intend to work in higher education or nonprofit organizations as well as those who want to conduct industry training. The courses in this certificate may be used to meet some of the requirements for teacher certification programs.

Students must meet regular Missouri S&T undergraduate admission requirements.

Certificate Requirements

A student must have completed the following courses, totaling 12 hours.

EDUC 1074	Foundations of Education in a Diverse Society	3
EDUC 3216	Instructional Literacy in the Content Area	3
EDUC 3340	Assessment of Student Learning	3
EDUC 2310	Education Of The Exceptional Child	3

Undergraduate Certificate in Education of Young Children

Courses in this certificate will explore creation of high quality care for young children, from birth to eight years of age. The certificate courses emphasize engagement of diverse families and collaboration with community resources. The courses in this program are aligned with the Core Competencies for Early Childhood and Youth Development programs for Missouri and Kansas and the national Child Development Associate training requirements.

The on campus childcare center at S&T provides real world experiences for students interested in working with this age group. This certificate would add specialized knowledge of early childhood to existing programs such as elementary teacher certification and psychological sciences.

Individuals seeking to manage or work in preschools, daycares, or other educational settings with young children would benefit from this certificate.

Additional courses, including student teaching, are required for the Missouri teaching certificate in early childhood. However, completion of all certificate courses meets the training requirement for Child Development Associate, a nationally recognized credential. Additional assessments and clock hours in a childcare setting are required for obtaining that credential; this certificate represents only the training completion.

The following courses are required, for a total of 18 credit hours:

EDUC 1055	Introduction to Early Childhood Education	3
EDUC 1221	Health, Nutrition, and Safety in Early Childhood Education	3
EDUC 1820	Early Childhood Program Management	3
EDUC 2440	Observation and Assessment of Young Children	3

EDUC 2401	School, Family, and Community Partnerships	3
EDUC 3211	Child Development	3

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PHD University of Kentucky

Jami Swindell, Lecturer
EdD University of Illinois Urbana-Champaign

EDUC 1000 Special Problems (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department.
Consent of instructor required.

EDUC 1001 Special Topics (IND 0.0-6.0)
This course is designed to give the department an opportunity to test a new course. Variable title.

EDUC 1055 Introduction to Early Childhood Education (LEC 3.0)
This course will introduce students to the standards for early childhood programs, emphasizing family partnerships and community resources. Students will survey research on play-based learning, emerging literacy, and family engagement and apply research concepts to design developmentally appropriate activities and spaces.

EDUC 1074 Foundations of Education in a Diverse Society (LEC 3.0)
In this introduction course, students enrolled in an education degree program will examine educational practice from diverse historical, philosophical, sociological, economic, and legal perspectives. The course will address issues of education equity, sociocultural influences on teaching and learning, social justice, and democratic citizenship in the American public school, the relationship between school and a diverse society, the organization of school curricula, and characteristics of effective schools and instruction in grades P-12. Students will develop their teaching philosophy, begin creating a professional portfolio, and come up with a plan to set up a classroom and develop appropriate daily routines and procedures. Prerequisites: Education major, emphasis, or certificate declared.

EDUC 1104 Teacher Field Experience I (LAB 1.0)
Students will spend 30 clock hours in classrooms, including experiences in diverse settings. Students will attend seminar sessions and complete assignments related to the field experiences. A background check is required for enrollment in this course. Prerequisite: Educ 1074.

EDUC 1111 Substitute Teacher Training (LEC 1.0)
This course prepares students to be in charge of a K-12 classroom as a substitute teacher. Classroom management, ethical conduct, support for students with special needs, and instructional strategies will be discussed. Students will teach a demonstration lesson to their peers.

EDUC 1164 Teacher Field Experience II (LAB 2.0)
Students will spend 60 clock hours in classrooms, including experiences in diverse settings. Students will teach lessons, work with learners, and otherwise assist in the classroom to which they are assigned. A background check is required for enrollment in this course. Prerequisites: Educ 1074, Educ 1104, and Educ 3216.

EDUC 1221 Health, Nutrition, and Safety in Early Childhood Education (LEC 3.0)
Students will examine research regarding safe and healthy learning environments for young children. Early childhood education regulations, policies, and risk management will be reviewed, and inequities related to health, safety, and nutrition will be critically examined. Students will create learning experiences for young children from course content. Prerequisites: Education emphasis declared.

EDUC 1820 Early Childhood Program Management (LEC 3.0)
This course is an examination of the regulatory requirements of early childhood programs. Students will discuss ethical issues and advocacy strategies. Students will practice administration skills such as budget management for early childhood programs. Personnel management to promote a positive school culture will be discussed. Prerequisites: Educ 1221.

EDUC 2000 Special Problems (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department.
Consent of instructor required.

EDUC 2001 Special Topics (LEC 0.0-6.0)
This course is designed to give the department an opportunity to test a new course. Variable title.

EDUC 2102 Educational Psychology (LEC 3.0)

Principles of psychology relevant to the field of education. Course covers theoretical and applied information on such topics as human growth and development, and cognitive and behavioral views of learning and intelligence. The course also covers motivation, creation of learning environments, measurement and evaluation of learning. Prerequisite: Either Psych 1101 (psychology majors) or Educ 1040 (teacher education program). (Co-listed with Psych 2300).

EDUC 2251 Historical Foundation Of American Education (LEC 3.0)

Development of American educational institutions and ideas, and of social forces that have influenced them. Prerequisites: Educ 1040 and History 1300 or 1310.

EDUC 2310 Education Of The Exceptional Child (LEC 3.0)

Study of the psychology of children with emotional, behavioral, cognitive or other differences. The course presents the fundamentals of providing services as well as understanding children classified as exceptional. Implications of personal, family and classroom issues will be discussed as well as assessment procedures for identification.

EDUC 2401 School, Family, and Community Partnerships (LEC 3.0)

Students will examine available community resources and their impact on children and families. Students will practice strategies to support family engagement. Effective communication and collaboration with diverse families will be emphasized. Prerequisites: Educ 1074 or Educ 1055.

EDUC 2440 Observation and Assessment of Young Children (LAB 1.0 and LEC 2.0)

Students will discuss the purpose, benefits, and uses of informal and formal assessments of children. Students will practice interpreting and communicating assessment results while maintaining confidentiality. Assessment results will be used to plan developmentally appropriate curriculum. Students will administer an observation assessment in the field. Prerequisites: Educ 1040 or Educ 1055.

EDUC 3000 Special Problems (IND 0.0-6.0)

Problems or readings on specific subjects or projects in the department. Consent of instructor required.

EDUC 3001 Special Topics (LEC 0.0-6.0)

This course is designed to give the department an opportunity to test a new course. Variable title.

EDUC 3170 Teaching Reading and Writing in Middle/High School (LEC 3.0)

Students will learn research-based literacy and writing strategies for their intended content area. Students will focus on the five pillars of reading instruction, especially vocabulary. Instructional interventions for students with reading deficits will be discussed. Effective instruction for English Language Learners will also be addressed. Prerequisites: Educ 3216.

EDUC 3203 Introduction to STEM Education (LEC 3.0)

Students will discuss and apply research on STEM education at the early childhood and elementary levels. Inquiry-based learning and critical thinking are emphasized. Students are introduced to a variety of instructional programs including Project Lead the Way. Students will observe STEM in an authentic environment and then implement instruction. Prerequisites: Educ 3216.

EDUC 3211 Child Development (LEC 3.0)

This course explores characteristics of children from birth to age eight, including language acquisition, creative expression, and physical, cognitive, and social-emotional development. The impact of trauma on development will be emphasized. The connection of cultural differences to development will also be discussed. Prerequisites: Educ 1040 or Educ 1055 or Psych 1101.

EDUC 3215 Teaching Reading in Elementary and Early Childhood Settings (LEC 3.0)

This course introduces emergent literacy concepts and language acquisition. Students will apply research on phonological and phonemic awareness, fluency, comprehension, vocabulary, and text selection to their future classrooms. After observing the teaching of reading in an authentic setting, students will design and implement instruction. Prerequisite: Educ 1074.

EDUC 3216 Instructional Literacy in the Content Area (LEC 3.0)

Vocabulary, comprehension, the writing process and other literacy skills will be reinforced. Classroom content texts will be evaluated. Students will create meaningful learning experiences and resources for a diverse student population. Differentiated instruction will be introduced, with specific focus on English Language Learners and struggling reader. Prerequisites: Educ 1040.

EDUC 3217 Analysis and Correction of Reading Difficulties (LEC 3.0)

This course reviews procedures for identifying reading problems and supporting learners at the elementary and early childhood levels. Students will be introduced to commercially prepared informal diagnostic instruments, attitude and interest inventories, prescriptive measures, anecdotal records and strategies for corrective reading instruction. Prerequisite: Educ 3215.

EDUC 3218 Language Arts for Elementary and Early Childhood Teachers (LEC 3.0)

Students will apply research in emergent writing at the early childhood level and the writing process at the elementary level. Providing effective feedback to learners on their oral and written communication will be addressed. Students will integrate art, music, drama, and play-based learning into language arts instruction. Prerequisite: Educ 1074.

EDUC 3220 Teaching Science in the Elementary and Early Childhood Classroom (LEC 3.0)

Students will learn to introduce children to scientific inquiry. Students will model higher order thinking skills and effective questioning techniques to guide learners' critical thinking by incorporating the engineering design process. Students will identify uses of technology for teaching science and develop informal and formal science assessments. Prerequisites: Educ 1074.

EDUC 3221 Methods of Teaching Math (LEC 3.0)

The course presents an overview of how children learn mathematics, various techniques in teaching mathematics, and examples of applying these techniques to specific mathematical concepts (such as geometry, measurement, basic operations, statistics and probability, etc.). Prerequisite: Math 1120 or Math 1140; Educ 1074. (Co-listed with Math 3921).

EDUC 3222 Geometric Concepts for Elementary Teachers (LEC 3.0)

The course covers methods of teaching the study of points, lines, polygons, similarity, congruence, constructions, and proof in Euclidean Plane Geometry. Transformational geometry and trigonometry are introduced to elementary teachers. Prerequisites: Math 1120 or Math 1140. (Co-listed with Math 3922).

EDUC 3280 Instructional Strategies in the Content Area (LEC 3.0)

Students will design authentic, technology rich, data-driven instruction and assessment for diverse learners in middle and secondary schools. The student will demonstrate competency in planning and implementing differentiated instruction. Critical thinking and problem solving strategies will be emphasized. Prerequisites: Educ 3216, English 3170, Educ 3340.

EDUC 3290 Coordination of Cooperative Education (LEC 3.0)

Explore the coordination and delivery of work-based learning experiences for student learners, including legal aspects, methods, materials, selecting work sites, placement, evaluation of expectations and student follow-up. Develop an implementation plan for cooperative education. Prerequisites: Educ 1074 and Educ 1104.

EDUC 3298 Teacher Field Experience III (LAB 1.0)

Students enrolled in this course will be planning and implementing activities and assessments with children or adolescents in structured learning environments. Students must be supervised by experienced, credentialed educators and request placement through the department. At least 30 hours of contact time is required per credit hour. Prerequisites: EDUC 1104 and 1164.

EDUC 3335 Curriculum And Instruction Of The Middle School (LEC 3.0)

This course provides an overview of the structure and philosophy of middle schools, including interdisciplinary and collaborative teams. The unique needs of the early adolescent will be aligned with evidence-based practices. Students will complete a field experience in a middle school. A cleared background check is required for this course. Prerequisite: Educ 1074.

EDUC 3340 Assessment of Student Learning (LEC 3.0)

Students will learn to evaluate assessments for validity and reliability. Students will develop formative and summative assessments aligned with learning outcomes. Writing quality rubrics and universal design will be introduced. Students will analyze data to make instructional decisions and learn to evaluate vendor assessments. Prerequisites: Educ 1074. (Co-listed with Psych 4340).

EDUC 3350 Social Studies In The Elementary School (LEC 3.0)

Problems in preparation, teaching of social studies units with suitable materials, techniques for elementary teachers. Prerequisite: Instructor's approval.

EDUC 3430 Diverse Literature for Children (LEC 3.0)

In this course, students will critically examine children's fiction and nonfiction texts for use in early childhood and elementary classrooms and libraries. The use of children's books in interdisciplinary instruction will be emphasized, including integration of STEM, art, drama, music, and movement. Prerequisites: Educ 1040.

EDUC 3530 Teaching Integrated Social Studies and Humanities (LEC 3.0)

The course will focus on the methodology and materials needed to facilitate children's development in social studies, particularly citizenship and Missouri history/geography. This course will integrate the curriculum and teaching strategies in social studies with music, physical education, and art. Prerequisites: Educ 1074.

EDUC 4298 Student Teaching Seminar (LEC 1.0)

Weekly seminars will be required for all students enrolled in student teaching. Contemporary educational topics, trends, reflective decision making and other pertinent topics will be covered. Reflection of topics and experiences will be exhibited in papers, portfolios and journal writings. Prerequisites: Meet all requirements for student teaching and concurrently be enrolled in student teaching.

EDUC 4299 Student Teaching (LAB 12)

This course is the culminating experience to qualify students for Missouri initial teacher certification. Students will be placed in a school with a credentialed mentor teacher in the intended area of certification. Students will be observed and evaluated by university faculty and the mentor teacher. Prerequisites: Professional standing and student teaching application approved previous semester.

EDUC 4320 Assessment and Evaluation in Special Education (LEC 3.0)

The purpose of this course is to teach the procedures and instruments used in the assessment of individual with disabilities, including standardized and non-standardized measures of intellectual ability, academic achievement, oral language, social/emotional behaviors, career/vocational needs. Prerequisites: Educ 2310.

EDUC 4325 Language Development for Exceptional Learners (LEC 3.0)

This course provides educators with the information needed to identify, understand, and teach students with language and communication difficulties, including students who speak a home language other than English or who speak non-standard English.

EDUC 4330 Collaborative Consultation in Special Education (LEC 3.0)

This course is designed to help students acquire the knowledgebase needed to foster partnerships that are meaningful, cooperative, and productive. The course is organized around problems of practice including understanding the importance of collaborative consultation and the process for creating empowering partnerships with families and other professionals.

EDUC 4375 Cross Categorical Special Education (LEC 3.0)

Study of characteristics of students with cross categorical disabilities and other pertinent issues including inclusion, assessment, and evaluation practices. Prerequisites: EDUC 3216.

EDUC 4380 Methods in Cross-Categorical Special Ed (LEC 3.0)

This course is designed to provide students with research-based instructional and behavior management methods for use with student with cross-categorical disabilities. Prerequisites: EDUC 3216.

EDUC 4410 Behavior Management in Special Education (LEC 3.0)

Students will learn the foundations of behavior management and positive behavioral supports. Students will learn to create a proactive learning environment through supports, interventions, and behavioral monitoring.

EDUC 4600 Learning Problems in Math (LEC 3.0)

This course will focus on the study of diagnostic and remedial instructional techniques for the teaching of mathematics. In this course, students will study the characteristics of students who struggle in mathematics. Students will develop a knowledge base of effective practices for assessment and teaching strategies in mathematics. Prerequisites: Educ 1074.

EDUC 5100 PLTW Training (LEC 0.0-8.0)

This graduate-level Project Lead the Way course prepares K-12 educators to become more effective teachers of STEM-focused material.

EDUC 5150 Teacher Leadership within Educational System (LEC 3.0)

Students will examine their educational context and research educational systems at various levels. Developing a collaborative culture of collective responsibility will be discussed, including equity, accountability, and continuous improvement processes. Teacher leaders will understand how educational policy is crafted and create an advocacy plan.

EDUC 5220 Instructional Coaching and Mentoring (LEC 3.0)

The differences between coaching and mentoring will be discussed, as well as research-support practices in each. Teacher leaders will research adult learning principles and apply them to instructional coaching. They will learn approaches to observing and providing constructive feedback, then practice them with peers.

EDUC 5225 Curriculum Development and Assessment (LEC 3.0)

Curriculum will be analyzed using research-based processes. Teacher leaders will model collaborative and reflective practice based on student data and practice leading teams to do the same. Instructional strategies and assessments that address issues of diversity and equity will be the focus.

EDUC 5330 Community-Based Participatory Action Research (LEC 3.0)

This course will focus on methods for engaging school and community members in research. Students will collaboratively identify research questions, practice data collection techniques, analyze, and report the results.

EDUC 5370 Teachers Academy: Effective Instructional Strategies (LEC 3.0)

Participants will develop an understanding of research-based instruction and the ability to implement the instructional strategies in their classrooms. In addition to effective instructional practices, the teachers' academy will focus on leadership, empowerment, collaboration and renewal. Prerequisite: Graduate standing.

EDUC COOP Cooperative Work Program (IND 0.0)