### Degree Requirements

#### Master of Arts in Education–Instructional Process

Every MAEd–IP student must complete 13 credit hours of required core courses. The balance of the credits required to obtain the MAEd–IP (30 credits minimum) are composed of work within one of the three strands described. Requirements may differ for those in the Innovative Certification strand.

The core course work focuses on an Analysis of Practice from a variety of approaches to enhance an educator’s reflective practice involving educational assessment data, video microanalysis, learning sciences research, and educational foundation concepts. The program looks at the teaching practice from an individual level to the broader foundations in a variety of disciplines.

#### Program Core Course Work (13 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>Edu 4023</td>
<td>Second Language Acquisition &amp; Technology</td>
<td>3</td>
</tr>
<tr>
<td>Edu 4044</td>
<td>Video Microanalysis: Methods and Tools</td>
<td>3</td>
</tr>
<tr>
<td>Edu 4610</td>
<td>Introduction to Educational Tests and Measurements</td>
<td>3</td>
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<tr>
<td>or Edu 4890</td>
<td>The Science and Politics of Testing in the United States</td>
<td>3</td>
</tr>
<tr>
<td>Edu 516</td>
<td>MAEd Portfolio Presentation</td>
<td>1</td>
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<tr>
<td>Total Units</td>
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<td>10</td>
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Plus one Foundations of Education elective (3 credits), chosen among the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>Edu 453B</td>
<td>Sociology of Education</td>
<td>3</td>
</tr>
<tr>
<td>Edu 462</td>
<td>Politics of Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Or other relevant elective from Education, Social Work, Law, or Political Science (public policy concentration)

#### Strands of Study

Each student must complete the designated credit hour requirement within the chosen strand of study, with a minimum of 30 total credits required to graduate.

**Strand 1: Professional Development (17 credits minimum)**

If students select this strand of study they will design a course of study, in conjunction with their adviser, driven by their interests and needs identified via reflection and analysis in the core course work. Students in this strand may elect to do graduate-level course work in their content field, education, or other appropriate areas. University College offers strong graduate courses in American cultural studies, biology, English, history, international studies, and applied behavior analysis (within Psychological & Brain Sciences).

Examples of courses may include:

- Educ 4210 Creating Video Documentaries
- Additional "Foundations of Education" electives
- Or other elective courses from relevant areas

**Strand 2: Elementary/Middle Science Education (18 credits)**

This is not a complete list of U08 Educ 6000 courses; other U08 Educ 6000 courses may be substituted for those listed here. Possible courses include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>Bio 4001</td>
<td>Teaching the Science of Nature: Spring (must be taken under the Biology #)</td>
<td>var. max: 3</td>
</tr>
<tr>
<td>Bio 4002</td>
<td>Teaching the Science of Nature: Fall (must be taken under the Biology #)</td>
<td>3</td>
</tr>
<tr>
<td>Edu 6001</td>
<td>Topics in Education: Hands-on Science K-8: Electricity and Magnetism</td>
<td>3</td>
</tr>
<tr>
<td>Edu 6002</td>
<td>Topics in Education: Hands-on Science K-8: Life Cycles and Heredity</td>
<td>3</td>
</tr>
<tr>
<td>Edu 6003</td>
<td>Topics in Education: Hands on Science K-8: Force and Motion</td>
<td>3</td>
</tr>
<tr>
<td>Edu 6004</td>
<td>Topics in Education: Hands on Science K-8: Biological Form and Function</td>
<td>3</td>
</tr>
</tbody>
</table>
Credit 3 units.
Same as U29 Bio 4002 teaching.

providing information and techniques applicable in classroom astronomy, ecology and waste management, with a goal of

We will focus on animals, plants, weather, geology, hydrology, the Missouri landscape using a variety of scientific approaches.

This is a graduate course for science teachers that explores U08 Educ 4002 Teaching the Science of Nature: Fall Credit variable, maximum 3 units.

landscape. Topics will vary by semester. Same as Bio 4001.

A graduate course held at Tyson Research Center devoted to

research and literature. Seminar format.

U08 Educ 6000 Topics in Education (36-54 credits)

This strand is for classroom teachers seeking teacher certification for middle or high school. Candidates must hold an undergraduate degree and current teaching position in a middle or high school as an uncertified teacher.

The course work will vary based on the level of certification sought and the subject area course work to be completed. This will be determined by Washington University after a review of transcripts.

Courses

Visit online course listings to view semester offerings for U08 Educ (https://courses.wustl.edu/CourseInfo.aspx? sch=U&dept=U08&crslvl=4-6).

U08 Educ 400 Independent Study
Credit variable, maximum 3 units.

U08 Educ 4000 Topics in Education
An analysis of major educational issues, drawing on empirical research and literature. Seminar format. Credit 3 units.

U08 Educ 4001 Topics in Education: Teaching the Science of Nature
A graduate course held at Tyson Research Center devoted to enhancing the teaching of science in primary and secondary schools. Students receive useful field guides and teacher-ready, hands-on lesson plans suitable for immediate application in the classroom as they learn more about the science of the Missouri landscape. Topics will vary by semester. Same as Bio 4001. Credit variable, maximum 3 units.

U08 Educ 4002 Teaching the Science of Nature: Fall
This is a graduate course for science teachers that explores the Missouri landscape using a variety of scientific approaches. We will focus on animals, plants, weather, geology, hydrology, astronomy, ecology and waste management, with a goal of providing information and techniques applicable in classroom teaching. Same as U29 Bio 4002 Credit 3 units.

U08 Educ 4021 Leadership Skills for Women Administrators
Overview of the concepts of assertion and leadership and their application to women in administration. Students will have the opportunity to assess their own leadership styles and communication patterns and will set personal goals. The rest of the course will consist of skill training in communication, leadership, and assertion. Course intended for working women. Enrollment limited to 20. Credit 3 units.

U08 Educ 4023 Second Language Acquisition & Technology
This seminar, for undergraduate and graduate students, will transform research and theory about second language acquisition into practical applications. The course fosters professional development as participants formulate critical skills for evaluating, creating, and integrating technology into the language classroom. Course formats include readings, discussions, and demonstrations with technologies. The course is now open to undergraduates. Graduate students can enroll whenever it suits their course planning. The course counts for the Graduate Certificate in Language Instruction and for the undergraduate minor in applied linguistics. This course carries the Social and Behavioral Sciences attribute and can be taken as an elective in several different programs. Same as L12 Educ 4023 Credit 3 units. A&S: SS A&S IQ: SSC

U08 Educ 4044 Video Microanalysis: Methods and Tools
The purpose of this course is to explore video microanalysis as a methodological tool for studying and valuing unconscious aspects of culturally diverse settings. Utilizing a social-cultural-theoretical lens, this type of analysis will reveal fleeting actions, subtle movements, peripheral events, and nonverbal communications that are not easily identified in real-time viewing. Specifically we may look at facial expressions, direction of gaze, hand movements, body position, and use of material resources as microtechniques to expand our capacity to explore minute aspects and alternative interpretations of social interactions. Same as L12 Educ 4033 Credit 3 units. A&S: SS, SD A&S IQ: SSC, SD

U08 Educ 4052 Educational Psychology: A Focus on Teaching and Learning in School Settings
The classroom as a physical, social, and intellectual environment. Selected psychological concepts and theories are applied to processes and practices of teaching and learning through readings, discussions, and participation/observation in preschools and elementary and secondary schools. A systematic, firsthand look at schooling in America both for prospective teachers and those interested in furthering their understanding of fundamental principles of teaching and learning. Prerequisite: sophomore standing. Must enroll in fieldwork laboratory (5 hours per week). Same as L12 Educ 4052 Credit 4 units. A&S: SS A&S IQ: SSC Art: SSC

U08 Educ 406 Theoretical Foundations, Approaches, and Methods in Teaching English as a Second Language (TESL)
This course is designed to give participants a firm theoretical foundation in TESL and offer a variety of approaches and methods used in the field. Practical application of theories and
methodologies will be included. Principles covered can also be used when teaching English abroad.
Credit 3 units.

U08 Educ 407 Curriculum and Instruction in Modern Foreign Languages
Modern foreign language curriculum in the secondary schools, with emphasis on the selection, organization, and appraisal of materials. Analysis of methods of instruction and evaluation in teaching modern foreign languages. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take 3 credit hours during the fall semester in which student teaching is done.
Same as L12 Educ 407
Credit 3 units. A&S: LA A&S IQ: HUM Art: HUM

U08 Educ 4109 History and Identity
It is generally assumed that history plays an essential role in forming and maintaining the identity of individuals and groups. This course will examine this assumption by analyzing how history is produced and used in nation-states. The class will consider the narrative organization of history and how it is made available (e.g., through school instruction, popular media), and then turn to issues of how history is understood and internalized by examining psychological processes such as identification and resistance. Readings, discussion, and a research project.
Credit 3 units.

U08 Educ 4121 Teaching Creative Movement to Children
This course will introduce educators and parents to the kinesthetic experience as a means of stimulating imagination and creativity, problem solving and expression. Drawing on Gardner’s theory that humans possess a variety of intelligences — linguistic, bodily/kinesthetic, musical, interpersonal and intrapersonal — we understand that Creative Movement emphasizes the unique process of each individual’s expression. Students are introduced to the material through experiential movement sessions, lecture and discussion. The course content revolves around the dance elements of body, time, and space. Requirements consist of reading assignments, a short paper and a final project.
Same as U31 Dance 411
Credit 2 units.

U08 Educ 413 Curriculum and Instruction in Art K-12
Art curriculum in the public schools, with emphasis on examination of methods and materials for teaching art. Prerequisite: permission of instructor.
Secondary teacher education majors are required to take 3 credit hours during the year in which student teaching is done. Offered fall semester.
Same as L12 Educ 413
Credit 3 units. A&S: LA A&S IQ: HUM Art: HUM

U08 Educ 414 Curriculum and Instruction in English
English curriculum in the secondary school; emphasis on the selection and organization of materials. Analysis of methods of instruction and evaluation in teaching literature and language. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take 3 credit hours during the year in which student teaching is done. Offered fall semester.
Same as L12 Educ 414
Credit 3 units. A&S: LA A&S IQ: HUM Art: HUM

U08 Educ 415 Curriculum and Instruction in Science
Secondary school science curriculum and instructional methods, including evaluation of curricular materials and student performance based on instruction and evaluation objectives. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take 3 credit hours during the fall semester during the year in which student teaching is done.
Offered fall semester.
Same as L12 Educ 415
Credit 3 units. A&S: NS A&S IQ: NSM Art: NSM

U08 Educ 4150 Math for Elementary Teachers/Practical Classroom Strategies
A review of the mathematics of kindergarten through eighth grades, frequently at a level beyond its usual presentation in the schools. Applications of all concepts are given in abundance. Participants will implement the mathematics content of the course in a real classroom setting. Inquiry project required. Prerequisite: permission of instructor.
Credit 3 units.

U08 Educ 417 Curriculum and Instruction in Mathematics
Mathematics curriculum in the secondary school, with emphasis on modern developments in organization of mathematics. Analysis of methods of instruction and evaluation in teaching mathematics. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take 3 credit hours during the fall semester during the year in which student teaching is done.
Same as L12 Educ 417
Credit 3 units. A&S: NS A&S IQ: NSM Art: NSM

U08 Educ 418 Curriculum and Instruction in Social Studies
Goals of general education in social studies and their relationship to the nature of knowledge in the social sciences. Introduction to the nature of thinking and its relationship to pedagogy and teaching materials. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take three credit hours during the year in which student teaching is done.
Same as L12 Educ 418
Credit 3 units. A&S: SS A&S IQ: SSC Art: SSC

U08 Educ 4210 Creating Video Documentaries
The course is an opportunity to develop critical skills in video production and media literacy. We begin by addressing theories of documentary production. This includes an understanding of film forms and the various tools and techniques available to visual storytellers. We also explore the challenges of representation and the ethical considerations involved in video production. For the final project students will combine their technological skills with theoretical principles developed throughout the semester to produce a short documentary film. There is no technical prerequisite for this course. Each reading and class exercise is designed to provide students with the skills necessary to produce the final project.
Credit 3 units.
U08 Educ 4232 Curriculum and Instruction in Dance
Dance curriculum in middle and secondary schools — methods of instruction and assessment in teaching dance. Introduction to the unique position of the role of dance in public education, and the dance teacher’s role as diplomat and arts advocate. Designing dance curriculum including artist residencies and master classes, assessment, and lessons based on national and state standards and sound dance education principles. Credit may be applied toward the education major and potentially toward state certification.
Same as U31 Dance 440
Credit 3 units.

U08 Educ 4271 Health of the Child
A study of the health and nutrition of children. Prerequisites: admission to the teacher education program or permission of director of Teacher Education.
Credit 1 unit.

U08 Educ 4288 Higher Education in American Culture
Colleges and universities in the United States have been the sites of both cultural conservation and political and cultural subversion from their founding in the 17th and 18th centuries. They have been integral to the nation’s and to regional cultural and economic development. In addition, they have functioned as one component of an increasingly diversified and complex system of education. This course, a reading colloquium, surveys higher education in American history, including the ideas that have contributed to shaping that history, beginning with its origins in European institutional models. We use the primary and secondary readings to examine critically its conflict-ridden institutional transformation from exclusively serving the elite to increasingly serving the masses. We explore the cultural sources of the ideas as well as the growth and diversification of institutions, generations of students and faculty as they changed over time, and curricular evolutions and revolutions in relation to the larger social and cultural contexts of institutional expansion.
Credit 3 units.

U08 Educ 4302 Cognitive Psychology Applied to Education
This course is intended to cover topics in the cognitive psychology of human memory, conceptual learning, and comprehension with special focus on areas, theory, and research that have potential application to education. Thus, the course will provide selective coverage of theoretical and empirical work in cognitive psychology that provides potential to inform and improve educational practice. The applicability of these themes will be explicitly developed and evaluated through the primary research literature using educationally oriented experimental paradigms. The course is expected to be of interest and benefit to education majors and to psychology majors interested in cognitive psychology and its applications.
Prerequisites: junior/senior status, 9 units in Psychology and Psych 100B or junior/senior status, 9 units in Education and Psych 100B.
Same as L33 Psych 4302
Credit 3 units. A&S: SS A&S IQ: SSC

U08 Educ 4311 Social Statistics

U08 Educ 4312 Tools of Inquiry
This course offers an introduction to teacher inquiry and provides a foundation of skills, knowledge, and performances that effective teachers use to monitor and improve practice. In this course teachers will be actively involved in their own teaching and learning with an emphasis on the following: Reflective practice: Reflective practitioners continually evaluate the effects of their choices and actions on others (e.g., students, parents, and other professionals in the learning community) and actively seek out opportunities to improve practice and grow professionally. Use of technology: Teacher leaders model the use of media and technology as tools of inquiry. This course will support teachers to do the following: Use multiple sources of data to assess the growth of individual learners. Use assessment data to adjust curriculum and instruction to student needs. Investigate their own biases, assumptions and ideologies and monitor the effects on student learning. Conduct research in the classroom to assist them in improving their practice. Use portfolios and other reflective practices to document and monitor their professional development. Offered spring semester.
Same as L12 Educ 4312
Credit 3 units. A&S: SS A&S IQ: SSC

U08 Educ 4315 Culture, Language, and the Education of Black Students
This course examines the communicative patterns of what is called variously African-American language, Pan-African linguistic systems and Ebonics within the context of public school policy and practice. In addition to a review of the structural and pragmatic aspects of black speech, the course highlights controversies within the linguistic community, contrasting views of speech within black lay communities, public discourse, and educational policy.
Credit 3 units.

U08 Educ 440 Women in the History of Higher Education and the Professions
An advanced seminar with readings exploring education, historical studies, and feminist theory. Each student writes a paper based on research in local archives and in other primary sources, on a topic related to women in higher education and/or professions. Prerequisite: junior standing or above; some background in American history.
Credit 3 units.

U08 Educ 4411 Social Statistics
Credit 3 units.

U08 Educ 4414 Learning Technologies for Math & Science
What does the integration of electronic technology into classrooms, projects, and informal settings mean for the development of our students’ understanding of mathematics and science? What implications does it have for our own content understanding, and for how we lead our students in the classroom? Can we really integrate information technology into the classroom in ways that truly enhance student inquiry and reasoning? This course focuses on the function, design, use, and effectiveness of electronic technology in mathematics and science education, and, in particular, how it interacts with content and classroom practice. A primary perspective in the course will be the ways in which electronic tools can be used to promote understanding and interpretation of data and quantitative thinking as springboards to inquiry, modeling, and the doing of “authentic science.” Participants learn several software applications and computer-based curricula, and read current research on the implications for the learning sciences of technology and modeling in science and math. Content emphasis is from middle and high school science and mathematics, and accessible to all teachers of science and math. In-service teachers,
graduates and advanced undergraduates in education, mathematics, science, and psychology are invited. Same as L12 Educ 4414
Credit 3 units. A&S: SS

U08 Educ 4441 Applied Behavior Analysis I: Basic Principles of Behavior
This course focuses on behavioral principles and procedures as related to the acquisition of new behavior and the modification of existing behavior. Topics to be covered include: reinforcement, punishment, extinction, discrimination training, generalization, shaping, classical conditioning, conditioned reinforcement, and schedules of reinforcement. Although the focus is on basic principles derived from laboratory research, applications of these principles to areas such as developmental disabilities (e.g., autism), academic skills, and oppositional behaviors are discussed. Philosophical and historical antecedents of behaviorism also are explored. This class is part of a sequence of courses that the Behavior Analyst Certification Board, Inc. has approved for eligibility to take the Board Certified Associate Behavior Analyst Examination. Same as U09 Psych 444
Credit 3 units.

U08 Educ 4451 Teaching Writing in School Contexts
Writing teachers often know how to write well but less about the teaching of writing. To provide effective instruction in writing, teachers need, first of all, experiences with writing instruction and theoretical knowledge to guide classroom practices. The goals of this course are as follows: to provide opportunities for all teachers of English and language arts, to develop theoretical knowledge and skill as teachers of writing, to connect the practices of research and teaching, to encourage teachers to give their students multiple and varied experiences with writing, to assist teachers in learning to respond to students' writing and assessment progress as writers. Same as L12 Educ 4451
Credit 3 units. A&S: SS A&S IQ: SSC

U08 Educ 4452 Applied Behavior Analysis II: Procedures for Behavior Change
This course focuses on the complex behavioral principles and issues surrounding their application in the analysis and modification of behavior. In addition, students learn to identify behavior and environment relations that constitute behavioral deficits or excesses. Behavioral change procedures to be explored include: functional analysis, reinforcement, shaping, chaining, discrete trials, contingency contracting, reinforcement, and maintenance of behavior change. Ethical considerations are also addressed. This class is part of a sequence of courses that the Behavior Analyst Certification Board, Inc. has approved for eligibility to take the Board Certified Associate Behavior Analyst Examination. Prerequisite: U09-444.
Same as U09 Psych 445
Credit 3 units.

U08 Educ 446 Applied Behavior Analysis: Research Methods and Evaluation
This course focuses on research design and methodology in behavior analytic research, with a focus on single-subject experimental designs. Various behavior-assessment and behavior-intervention evaluation strategies will be examined. In addition, the course explores techniques for direct observation, and measurement of behavior, as well as methods of summarizing data, data analyses, and the ethics of research. Prerequisite: ABA I: Basic Principles of Behavior.
Same as U09 Psych 446
Credit 3 units.

U08 Educ 4484 Language, Thought, and Culture
This course examines ways in which language shapes human mental and cultural practices. Drawing on linguistics, literary theory, anthropology, sociology, and psychology, discussions will take up issues such as how different languages give rise to different forms of thought, how language is tied to power and authority, and how language shapes identity. Particular emphasis is given to how these issues emerge in the context of human development, education, and socialization. Prerequisite: advanced undergraduate or graduate standing, or permission of instructor.
Credit 3 units.

U08 Educ 4491 Applied Behavior Analysis Practicum
This practicum provides experience in applied behavior analysis and is designed for individuals who intend to pursue certification through the Behavior Analysis Certification Board (BCBA) examination at the Associate level (Board Certified Behavior Analyst: BCABA). Students will work in community-based agencies and be supervised by the community agency and the Practicum faculty. Prerequisites: admission to the Washington University Applied Behavior Analysis Certificate Program; and ABA I: Basic Principles of Behavior; and ABA II: Procedures for Behavior Change; and permission of instructor. Email ab44k@yahoo.com
Same as U09 Psych 449
Credit 2 units.

U08 Educ 4512 Race, Ethnicity, and Culture: Qualitative Inquiries into Urban Education II
This course is the second of two to examine ethnographic research at the intersecting and overlapping points of race, ethnicity, class, gender and culture. The emphasis in this course is on developing methodology that is consonant with critically grounded, socially responsible, culturally-responsive, and humane research projects and programs. Prerequisites: AFAS/ Educ 4511 and/or permission of the instructor.
Credit 3 units.

U08 Educ 4521 Teaching Adults in Community Settings
This course will help students acquire the knowledge, skill sets, habits of mind, and learning strategies necessary for understanding the adult learner and the effective design of learning for personal and professional growth by adults in a variety of community settings. We will inventory the class members' interests in specific community contexts so that we can work with those settings in mind throughout the semester. Discussion of learners' needs and peer practice of appropriate, effective instructional and learning strategies will provide experience, new perspectives and opportunities for reflection. Course work will serve as preparation for the final project which will be to create an instructional plan for adult learners that will address a specific community learning need or situation.
Same as L12 Educ 4521
U08 Educ 453B Sociology of Education
This course provides an overview of sociological theory and research on education in contemporary U.S. society. Drawing from sociological perspectives, it covers the implications of schools and schooling for social inequality, mobility, and group relations. It examines major theoretical perspectives on the purpose and social organization of mass education in the United States, and topics related to the organization and function of schools, access to educational resources, and group disparities in school experiences and outcomes.
Same as L12 Educ 453B
Credit 3 units. A&S: SS, SD A&S IQ: SSC, SD Art: SSC BU: BA, ETH

U08 Educ 457 Education and Personality Development
The relationship between personal characteristics and systematic efforts to develop the personal resources of individuals. The relevance of such psychophysical propensities as aggression, dissociation, and sexuality to the design of educational programs; the capacity of educational interventions to influence personality processes related to major societal challenges such as addictions and domestic violence. The adequacy of models of human functioning evaluated in terms of students' own observational work, their personal experience, and the empirical literature.
Credit 3 units.

U08 Educ 4580 Media Literacy for In-Service Teachers
This course allows in-service teachers to develop a technological foundation in video production (videography), post-production (digital editing), and challenge them to produce a short documentary as a final project. At the end of the semester, students screen their work in a public forum and participate in a peer evaluation workshop. The course also explores strategies to integrate media education into the K-12 curriculum.
Credit 3 units.

U08 Educ 459 Philosophies of Education
An examination of distinct educational philosophies (traditional, progressive, and radical) and an analysis of perennial topics in the philosophy of education (educational goals, the teacher's and student's roles, and curricular content). Discussion of such recent themes as gender relations and education, democracy and education, and moral values and education. Seminar format.
Same as L12 Educ 459F
Credit 3 units. A&S: TH A&S IQ: HUM Arch: HUM Art: HUM BU: ETH

U08 Educ 4608 The Education of Black Children and Youth in the United States
This course provides an overview of the education of black children and youth in the United States. Covering both pre- and post-Brown eras, this course applies a deep reading to the classic works of DuBois and Anderson as well as the more recent works of Kozol, Delpit, and Foster. The social, political, and historical contexts of education, as essential aspects of American and African-American culture and life, will be placed in the foreground of course inquiries.
Same as L12 Educ 4608
Credit 3 units. A&S: TH, SD, WI A&S IQ: HUM, SD, WI Art: HUM

U08 Educ 4610 Introduction to Educational Tests and Measurements
Basic concepts of tests and measurements for teachers (and other school personnel). Topics: test reliability and validity, fundamentals of test construction and standardization; analysis of major types of group tests used in schools, including achievement and aptitude tests; meaning and interpretation of test scores; development of school testing programs. Teacher-made tests a central concern. Prerequisite: Educ 4052 or the equivalent.
Same as L12 Educ 461
Credit 3 units. A&S: SS A&S IQ: SSC

U08 Educ 462 Politics of Education
Politics is interpreted broadly to include not just government, but any situation in which people have to solve a problem or come to a decision. This course focuses on schools and the processes through which certain stories, identities, and practices are promoted, and others, not.
Same as L12 Educ 462
Credit 3 units. A&S: SS A&S IQ: SSC Art: SSC EN: S

U08 Educ 465 An Introduction to American Higher Education
America's colleges and universities are among the nation's most important institutions. The U.S. Higher Education system has emerged as the world's premier model for teaching and research and includes a diverse array of institutions with varying missions and student populations. This course is designed for those interested in exploring a career in higher education or for those interested in learning more about the current and historical context of American higher education. Students will expand their understanding of the basic organizational, legal, financial, and academic framework of today's colleges and universities and will address several key challenges facing America's higher education community such as finance, access, and the role of higher education in local communities.
Credit 3 units.

U08 Educ 4661 Second Language Acquisition
There are many ways in which a second language can be learned: from infancy as the child of bilingual parents, or later through formal instruction, immersion in a new culture, or in a particular work or social situation. This class is an inquiry into the processes by which acquisition occurs. Topics include the nature of language learning within the scope of other types of human learning; the relationship between first and second language acquisition; the role of linguistic, cognitive, and sociocultural factors; insights gained from analyzing learners' errors; key concepts such as interlanguage and communicative competence; bilingualism; the optimal age for second language acquisition; and a critical appraisal of different theories of second language acquisition. Both theoretical and instructional implications of second language acquisition research are considered. This course can be used toward certification in TESOL and is a required course for the Graduate Certificate in Language Instruction. Prerequisite: Ling 170D or equivalent is recommended, especially for undergraduates, but is not required.
Same as L44 Ling 466
Credit 3 units. A&S: LA A&S IQ: HUM
U08 Educ 4662 Materials for Teaching English as a Second Language
This course is designed to help K-12 teachers build a repertoire of classroom materials for teaching and testing speakers of other languages. Approaches to teaching language interactively, integrating the four skills of listening, speaking, reading, and writing will be emphasized as well as using assessments to inform instruction. Practical steps to test and lesson construction will be examined.
Credit 3 units.

U08 Educ 4681 Teaching Reading in the Elementary School
This course, emphasizing emergent literacy and children's literature, is the first in a sequence of three courses on teaching reading and writing. The purposes of this course are to survey children's acquisition of oral and written language from an emergent literacy perspective, to focus on methods of teaching beginning reading, to develop uses of children's literature in a reading program. Offered fall semester.
Same as L12 Educ 4681
Credit 3 units. A&S: LA A&S IQ: HUM Art: HUM

U08 Educ 4691 Second Language Reading and Writing: Theory, Research, and Practice
This course, taught in English, extends issues in second language literacy beyond pedagogy by examining the wide range of theoretical and research issues, both historical and current. Literacy acquisition among second language learners involves a number of variables including both cognitive and social factors. Topics to be discussed in class include literacy and social power, universal cognitive operations, individual learner differences, text types and literary forms, and the extent to which reading and writing are interrelated. Students will discuss how to bridge research and practice, and they will create reading and writing activities driven by theory and empirical investigations. This course is a required course for the undergraduate minor in applied linguistics and an elective for the Graduate Certificate in Language Instruction. This course carries the Social and Behavioral Sciences attribute.
Same as L38 Span 4691
Credit 3 units. A&S: SS A&S IQ: SSC

U08 Educ 4701 History of the English Language
Concepts and methods of linguistic study: comparative, historical, and descriptive. Application of methods to selected problems in the history of English. Contrastive analysis of excerpts from Old, Middle, and later English; sounds, meanings, syntax, and styles.
Same as L14 E Lit 472
Credit 3 units. A&S: LA A&S IQ: HUM Art: HUM

U08 Educ 4731 Elementary School Mathematics
Fundamental concepts, properties, operations, and application of mathematics related to the systems of whole numbers, integers, rational numbers, and real numbers. Also included are measurement, simple geometry, probability, and logical reasoning. Examination and implementation of varied curricula and teaching strategies. Admission to Elementary Education program or permission of director of Teacher Education. Offered spring semester.
Same as L12 Educ 4731
Credit 3 units. A&S: NS A&S IQ: NSM Art: NSM

U08 Educ 4741 Elementary Science: Content, Curriculum, and Instruction
Focus on key concepts appropriate for elementary school science and health instruction. Repertoire of effective teaching strategies and approaches to curriculum development.
Prerequisite: admission to teacher education program. Offered spring semester.
Same as L12 Educ 4741
Credit 2 units.

U08 Educ 4751 Elementary Social Studies: Content, Curriculum and Instruction
Introduction to key concepts in social studies, including economics and geography. Repertoire of effective teaching strategies and approaches to curriculum development in all areas of social studies.
Prerequisite: admission to teacher education program.
Same as L12 Educ 4751
Credit 2 units.

U08 Educ 4771 Arts and Aesthetics: A Means of Communication
Methods and materials for integrating the arts and aesthetics into the elementary classroom. Emphasis on art, music, and oral communication as well as curricula in movement.
Prerequisite: admission to teacher education program, or permission of instructor.
Same as L12 Educ 4771
Credit 2 units.

U08 Educ 4821 Teaching-Learning Process in the Secondary School
The Teaching-Learning course that secondary teacher education majors are required to take during the spring semester in which student teaching is done. The course focuses on the study, practice and analysis of generic teaching strategies and skills needed to meet the needs of all students. Topics include classroom management, lesson planning, instructional and ethical decision-making and strategies for presenting clear explanations, asking effective questions, conducting productive discussions, reaching students with different learning styles/abilities/cultural backgrounds, and using cooperative learning groups. Secondary teacher education majors are required to take 3 credit hours during the year when student teaching is done.
Same as L12 Educ 4821
Credit 3 units. A&S: SS, WI A&S IQ: SSC, WI Art: SSC

U08 Educ 4822 Practicum in Teaching English as a Second Language
Supervised ESL teaching experience. Observation of LEP students and assessment of group and individual needs; curriculum planning informed by student needs and second language acquisition theory; implementation of planned instruction; design and use of curriculum materials; reflection and analysis to plan future instruction.
Credit 3 units.

U08 Educ 4831 The Teaching-Learning Process in Elementary School
Focus on four broad areas: self-awareness and human relations, generic teaching and behavioral management strategies,
analysis of instruction, social and political issues affecting the classroom. Topics include teacher-pupil relationships, evaluation of pupil progress, curriculum development, instructional technology, and school organization. Admission to Elementary Teacher Education program required. Elementary teacher education majors are required to take this course in the fall semester during the semester in which student teaching is done. Same as L12 Educ 4831
Credit 3 units. A&S: SS, WI A&S IQ: SSC, WI Art: SSC EN: S

U08 Educ 4841 Elementary Methods Field Experience
Application and analysis of specific content area methods strategies in an elementary school classroom. Prerequisite: admission to teacher education program. Elementary teacher education majors are required to take this course during the spring semester before the year in which student teaching is done. Offered spring semester. Same as L12 Educ 4841
Credit 2 units. A&S: SS A&S IQ: SSC Art: SSC

U08 Educ 4843 Field Experience Seminar
This course guides students through a field experience in middle or secondary public school. Students observe and document classroom environment characteristics, professional teacher behaviors, and student behaviors; work with students individually and/or in small groups; prepare and teach a lesson. Same as L12 Educ 4843
Credit variable, maximum 3 units. A&S: SS A&S IQ: SSC

U08 Educ 4890 The Science and Politics of Testing in the United States
Why do tests permeate American society? Tests have been integral to the decision-making process in many venues of American culture (e.g., immigration opportunities, voting rights, college admissions, workforce considerations, special education placement, educational reform, and graduation requirements). The credibility of these decisions depends upon the claim that a particular test is a scientific instrument and relevant to the decision-making process. This claim is worthy of study. The purpose of this course is twofold. The first purpose is to examine how the nexus of science and politics influence testing practices in American society. The second purpose is to explore how testing practices influence the culture of schools, civil liberties, the workplace, and public discourse about merit. Same as L12 Educ 4890
Credit 3 units. A&S: SS, SD A&S IQ: SSC, SD

U08 Educ 4891 Education and Public Policy in the United States
This course takes a triangulated approach to the field of public policy as it relates to education and social problems. First, the course emphasizes theories of public policy that frame the field of policy studies. Major questions extending from this course feature include: What is public policy, policy behavior, its defining processes/features and what social function does it serve? Second, the course emphasizes the skills related to the exercise of policy analysis. These skills include the crafting of technical documents within the field of public policy (e.g., a policy brief) and the application of scientific methods to the exploration of social problems/governmental actions. Likely issues related to this course feature include the use of scientific knowledge in political arenas, engagement with stakeholders and the intended/unintended consequences of policy science to political decision-making. Third, this course simulates the policymaking context through students’ participation in mock congressional testimonies. These focal areas will become central to an understanding of four social concerns: school desegregation following the Brown decisions; affirmative action in higher education; Head Start programs; and/or the ESEA Act of 1965, also known as No Child Left Behind. Educational opportunity, achievement inequality and social change will be the primary interests that link these course features. Same as L12 Educ 4891
Credit 3 units. A&S: SS A&S IQ: SSC Art: SSC EN: S UColl: ACS

U08 Educ 4911 Student Teaching in the Elementary School
Supervised teaching experience. Group meetings and individual conferences. Emphasis on integration of theory/practice and reflection on teaching through videotape analysis. Prerequisites: admission to elementary teacher education program and permission of director of teacher education. Credit/No Credit only. Elementary teacher education students enroll for 8 credits during the fall semester. Same as L12 Educ 4911
Credit variable, maximum 8 units. A&S: SS A&S IQ: SSC Art: SSC EN: S

U08 Educ 492 Student Teaching in the Secondary School
Supervised teaching experience. Group meetings and individual conferences. Emphasis on integration of theory/practice and reflection on teaching through videotape analysis. Prerequisite: admission to teacher education program. Credit/No Credit only. Secondary teacher education students enroll for 8 credits during the spring semester. Same as L12 Educ 492
Credit variable, maximum 8 units.

U08 Educ 4922 Student Teaching in Middle Schools
Supervised teaching experience. Group meetings and individual conferences. Emphasis on integration of theory/practice and reflection on teaching through videotape analysis. Prerequisite: admission to teacher education program. Credit/No Credit only. Middle school teacher education students enroll for 8 credits. Offered spring semester. Same as L12 Educ 4922
Credit variable, maximum 8 units. A&S: SS A&S IQ: SSC Art: SSC

U08 Educ 494 Student Teaching in K-12
Supervised teaching experience. Group meetings and individual conferences. Prerequisite: admission to teacher education program. Credit/No Credit only. K-12 teacher education students enroll for 8 credits. Offered spring semester. Same as L12 Educ 494
Credit variable, maximum 8 units. A&S: SS A&S IQ: SSC Art: SSC

U08 Educ 4951 Middle School Philosophy and Organization
This course examines the history, goals, organization and philosophy of middle schools as institutions. Students will explore how the characteristics and needs of early adolescents guide the mission, structure and operation of middle schools. Prerequisite: admission to teacher education program. Same as L12 Educ 4951
Credit 2 units. A&S: SS
U08 Educ 4952 Middle School Curriculum and Instruction
Building on knowledge of the middle-level child and the ways in which middle schools are organized to meet the needs of middle-level children (covered in Ed 4951), this course explores the learning styles and attributes of middle school students and examines instructional theory, methods and materials appropriate to grades 5-9. In addition, portions of this course will be devoted to specific content field methodology subdivided into English/language arts and social studies or science and math. The English/social studies and science/math sessions will be held concurrently, and students will attend the session appropriate to their content major or minors. Interdisciplinary team teaching will be modeled and featured in these sessions. Features a required practicum experience. Prerequisite: admission to Teacher Education program. Same as L12 Educ 4952
Credit 3 units. A&S: SS A&S IQ: SSC Art: SSC

U08 Educ 4955 Introduction to Technologies for Educators
This is a project-based course designed to help educators use technology creatively and effectively in support of curriculum in elementary and secondary school classrooms. Topics include an introduction to the internet, creating a webpage, multimedia presentation, evaluation and integration of software into the curriculum, and the impact of technology on the educational process. Students will identify useful internet resources, learn how to integrate these resources into their curriculum, and explore a variety of techniques for using the resources in their classroom, as well as for their own professional growth. Credit 3 units.

U08 Educ 503 Foundations of Educational Research
The basic concepts, philosophies, and techniques of research; research methodologies used in education; analysis of the strengths, weaknesses, and limitations of each. Prerequisite: graduate standing or permission of instructor. Credit 3 units.

U08 Educ 511 Child Development
This course serves as an introduction to developmental theory and research methods by highlighting the various processes (including biological and sociocultural forces) that influence human psychological change. Emphasis is given to normative social-emotional and cognitive development in childhood, using current empirical studies as the basis for student exploration, discussion, and debate. Same as L12 Educ 512
Credit 3 units.

U08 Educ 513 Creating a Teaching Portfolio
This introductory course will provide guidelines and skills for creating and maintaining a record of each student's professional growth as a teacher that reflects his/her philosophy, knowledge, teaching expertise, and experience. Students will examine and reflect on their teaching practice as it relates to personal goals as well as state and national standards for teaching excellence. Permission of instructor required. Credit 2 units.

U08 Educ 515 Continuing the Portfolio Process
Seminar format used to facilitate continuing portfolio development. Emphasis on making connections between university course work and individual teaching practice. Ongoing professional dialogue with peers and mentors provides direction and collegial support as students use the portfolio process to construct meaning out of their teaching experience and provide a clearer vision of their growth and development as a teacher. Prerequisite: Creating a Teaching Portfolio. Credit 1 unit.

U08 Educ 516 MAEd Portfolio Presentation
Using the "working" portfolio and conferring with mentors and instructors, students will reflect on portfolio process and prepare final MAEd presentation portfolio for evaluation. Prerequisite: Continuing the Portfolio Process. Credit 1 unit.

U08 Educ 525 Diagnosis and Correction of Reading Disabilities
This course is the second of three courses on teaching reading and writing, with an emphasis on readers, texts, and assessment. The purposes of this course are to address issues of the differences and disabilities that may occur in reading processes; evaluation of students' reading skills; analysis of texts for their use by readers; and designing classroom reading activities that assist students in all kinds of materials. Prerequisite: Educ 4681, or permission of instructor. Same as L12 Educ 525
Credit 3 units.

U08 Educ 5253 Instructional Interventions in Reading for Adolescents and English Language Learners
Education 5253 is the first of two courses designed to increase the ability of secondary school teacher candidates to support literacy development for middle and high school students. Strategies of instructional intervention will be taught, modeled and observed. The theoretical base of educational research for literacy intervention is at the core of understanding purpose, validity, and implementation of instructional intervention strategies. Additional purposes are to address differences among readers and texts and to understand methods of reading assessment for adolescents and the English Language Learner (ELL). The reading process, difficulties in reading and English language learning, instruction in reading beyond elementary education, and the role of the teacher in reading instruction and assessment will be important topics in this course. Prerequisite: admission to the Teacher Education program.
Same as L12 Educ 5253
Credit 3 units.

U08 Educ 527 Discourse Analysis
This course will locate discourse analysis in relation to linguistics, psycholinguistics, sociolinguistics, language acquisition, and literacy. Discussions will cover different emphases in the study of discourse, including speech act theory, conversation, and text structure. Permission of instructor required. Credit 3 units.

U08 Educ 5282 Action Research and Reflective Practice
This course offers knowledge and strategies for educators who desire to be more reflective and inquiry-oriented in their classroom practice. It explores the basic assumptions of qualitative research and examines, in considerable detail, one particular qualitative approach known as action research. Participants will study the possibilities and challenges that action
research holds for educators and learn how to use the methods of action research to study and change their own classrooms or schools. They will also become familiar with other forms of reflective practice, including storytelling, study groups, and critical friends’ groups. Participants will be required to complete a small action research project in their own school. Credit 3 units.

**U08 Educ 5521 Counseling Skills for Non-Counselors**
Counseling skills are presented, practiced, and evaluated by using videotape. Appropriate for educators, health care professionals, and people in business, personnel, management, or employee-assistance programs.
Credit 3 units.

**U08 Educ 557 Contemporary Issues in Education and Society**
This course is designed to provide teachers and others interested in education and schooling with an opportunity to examine some of the pressing issues in American education that are current topics of sustained discussion and debate. The issues selected for analysis vary from year to year.
Same as L12 Educ 557
Credit 3 units.

**U08 Educ 558 The Teacher and The Legal System**
Analysis of the school-related activities of the legal system, including teachers’ rights, the juvenile justice system, state and federal regulatory procedures, access to the courts by teachers and parents, and the work of legislative committees.
Credit 3 units.

**U08 Educ 5681 Reading in the Content Areas**
This course will focus on reading comprehension, reading and writing in content areas, reading assessment, and reading curriculum evaluation. Prerequisite: admission to Teacher Education program or permission of director of Teacher Education.
Same as L12 Educ 5681
Credit 3 units.

**U08 Educ 590 Graduate Independent Study**
Prerequisite: permission of instructor.
Credit variable, maximum 6 units.

**U08 Educ 597 Adult Learning Strategies and Practices**
The study of adult learners and effective instructional techniques for the workplace, classroom, and other organizational settings including those in health care, nonprofit, business, and human resources. Situation-appropriate selection, design, and practice of techniques that are compatible with adult learning principles including discussion, demonstration, explanation, case study, role play, coaching, and reflection. Tailoring content and learning strategies to meet adult learners' needs and the instructional objectives whether individual or large group.
Credit 3 units.

**U08 Educ 597J Adult Learning Strategies and Practices / BJCE**
The study of adult learners and effective instructional techniques for the workplace, classroom, and other organizational settings including those in health care, nonprofit, business, and human resources. Situation-appropriate selection, design, and practice of techniques that are compatible with adult learning principles including discussion, demonstration, explanation, case study, role play, coaching, and reflection. Tailoring content and learning strategies to meet adult learners' needs and the instructional objectives whether individual or large group.
Credit 3 units.

**U08 Educ 598 Topics in Education**
Credit variable, maximum 3 units.

**U08 Educ 6001 Topics in Education: Hands-On Science K-8: Electricity and Magnetism**
Laboratory experiences, discussion and lectures designed to prepare teachers to implement or strengthen hands-on science teaching in grades K-8. Inquiry activities illustrating electrical and magnetic principles will be selected in congruence with the National Science Education Standards and the Missouri Show-Me Standards. Prerequisite: permission of instructor; intended for in-service teachers.
Credit 3 units.

**U08 Educ 6002 Topics in Education: Hands-on Science K-8: Life Cycles and Heredity**
Laboratory experiences, discussion and lectures designed to prepare teachers to implement or strengthen hands-on science teaching in grades K-8. Inquiry activities illustrating the sexual and asexual life cycles of plants, animals fungi, and microbes will be selected in congruence with the National Science Education Standards and Missouri Show-Me Standards. Prerequisite: permission of instructor; intended for in-service teachers.
Credit 3 units.

**U08 Educ 6003 Topics in Education: Hands on Science K-8: Force and Motion**
Laboratory experiences, discussion and lectures designed to prepare teachers to implement or strengthen hands-on science teaching in grades K-8. Inquiry activities illustrating forces, work, energy, buoyancy, gravity, free fall, and motion will be selected in congruence with the National Science Education Standards and the Missouri Show-Me Standards. Prerequisite: permission of instructor; intended for in-service teachers.
Credit 3 units.

**U08 Educ 6004 Topics in Education: Hands on Science K-8: Biological Form and Function**
Laboratory experiences, discussion and lectures designed to prepare teachers to implement or strengthen hands-on science teaching in the grades K-8. Inquiry activities illustrating the relationship between anatomical form and biological function in plants and animals will be selected in congruence with the National Science Education Standards and the Missouri Show-Me Standards. Prerequisite: permission of instructor; intended for in-service teachers.
Credit 3 units.

**U08 Educ 6005 Scientific Inquiry for the Classroom Teacher**
An inquiry-based science course for practicing teachers in the elementary and middle school, grades 1-8. Participants will be engaged in developing their science content and pedagogical skills. A school-based implementation project will be
required. Topics to vary by semester. Prerequisite: permission of instructor.
Credit 3 units.

**U08 Educ 6006 Science Inquiry for Educators**
Laboratory experiences and discussions designed to help teachers use inquiry methods in the K-8 classroom. Science themes, structured in accordance with national and state educational standards, will be variable by semester. Classroom project required. Course is intended for in-service teachers. Permission of instructor required.
Credit 3 units.

**U08 Educ 6007 Advanced Scientific Inquiry for Educators**
This course is designed to prepare teachers to strengthen skills associated with the delivery of a successful inquiry-based science curriculum in the K-8 classroom. Through laboratory experiences and discussions, teachers will work on developing questioning strategies, sequencing activities to support the various experiential levels of students, and developing relevant lessons and activities from student questions. Classroom project required. Course is intended for in-service teachers. Prerequisite: permission of instructor.
Credit 3 units.

**U08 Educ 6008 Teaching the Process of Scientific Investigation**
This course is intended for in-service teachers. Participants will engage in the process of scientific investigation while developing hands-on lessons for their students that support their ability to understand the nature of the scientific process of problem solving. The focus will be on pedagogical strategies that help foster independent investigation among students. Classroom project is required. Prerequisite: permission of instructor.
Credit variable, maximum 3 units.

**U08 Educ 6009 Hands-On Science K-8: Matter and Energy**
Laboratory experiences, discussion and lectures designed to prepare teachers to implement or strengthen hands-on science teaching in the grades K-8. Inquiry activities illustrating basic matter, and energy and chemistry concepts will be selected in congruence with the National Science Education Standards and the Missouri Show-Me Standards. Prerequisites: permission of instructor; intended for in-service teachers.
Credit 3 units.

**U08 Educ 6010 Hands-On Science K-8: Mathematics Concepts**
Discussion intensive and lecture course designed to prepare teachers to implement or strengthen hands-on mathematics teaching in grades K-8. Inquiry activities illustrating numeration, rational numbers, and ratios will be selected in congruence with the NCTM Principles and Standards for School Mathematics, the National Science Education Standards, and the Missouri Show-Me Standards. Prerequisite: permission of instructor; intended for in-service teachers.
Credit 3 units.

**U08 Educ 6011 Hands-On Science K-8: Sound and Light**
Laboratory experiences, discussion, and lectures designed to prepare teachers to implement or strengthen hands-on science teaching in grades K-8. Inquiry activities illustrating characteristics of sound and light waves and related equipment will be selected in congruence with the National Science Education Standards and Missouri Show-Me Standards. Prerequisite: permission of instructor; intended for in-service teachers.
Credit 3 units.

Laboratory experiences, discussion and lectures designed to prepare teachers to implement or strengthen hands-on science teaching in grades K-8. Inquiry activities illustrating planetary motion, tides, lunar phases, constellations, comets, terrestrial planets, gas giants, plate tectonics, volcanoes, and earthquakes will be selected in congruence with the National Science Education Standards and Missouri Show-Me Standards. Registration fee collected first night of class. Prerequisite: permission of instructor; intended for in-service teachers.
Credit 3 units.

**U08 Educ 6013 Scientific Inquiry: Advanced Pedagogy for Educators**
This course is designed to prepare teachers to strengthen skills associated with the delivery of a successful inquiry-based science curriculum in the K-8 classroom. Through laboratory experiences and discussions, teachers will work on a variety of pedagogical skills including developing questioning strategies and sequencing activities to support the various experiential levels of students. Participants will conduct an implementation project at their school or learning site. Scientific themes, structured in accordance with national and state standards, vary by semester.
Credit 1.5 units.

**U08 Educ 6015 Hands-On Science K-8: Earth Systems**
Laboratory experiences, discussion, and lectures designed to prepare teachers to implement or strengthen hands-on science teaching in grades K-8. Inquiry activities involving the water cycle, erosion, the earth's composition, weather patterns, geology, and natural resources will be selected in congruence with the National Science Education Standards and the Missouri Show-Me Standards. Registration fee collected the first night of class. Prerequisite: permission of instructor; intended for in-service teachers.
Credit variable, maximum 3 units.

**U08 Educ 6016 Botany, Ecology, and Visual Technology I**
The BEVT courses comprise a new inquiry-based professional development sequence for teachers of grades 4 through 8. The overall aim of the course is for participants to develop deeper understanding of principles of biology and ecology, understanding of and skill with new technologies available for learning about biology and ecological principles, and fluency with the broader scientific and technological context of this subject matter. The first semester of this two-semester course incorporates 1) ecology, with particular attention to local grassland (prairie) ecosystems of Missouri and Illinois, 2) general plant biology, and 3) plant life strategies, with particular attention to grasses and their roles in the prairie. Several field experiences are included in the course. The course will also include experience with visual technology tools that enhance instruction and student learning. Instructors will highlight topical correspondence to current Missouri Curriculum Frameworks and the new draft Grade-Level Expectations (GLE's).
U08 Educ 6017 Botany, Ecology, and Visual Technology II
The BEVT courses comprise a new inquiry-based professional development sequence for teachers of grades 4 through 8. The overall aim of the course is for participants to develop deeper understanding of principles of biology and ecology, understanding of and skill with new technologies available for learning about biology and ecological principles, and a fluency with the broader scientific and technological context of this subject matter. Spring semester: the second semester of this two-semester course will build upon the information and concepts of plant biology, plant life strategies, and the ecology of local ecosystems developed during the fall semester; continue hands-on experimentation; and explore issues of the changes and challenges to intact ecosystems represented by modern human activities. Participants will develop competence with one or more computer graphic (visual) tools relevant to these topics, especially GIS (global information systems) software, which they can then use to enhance student learning in their own classrooms. Instructors will highlight topical correspondence to current Missouri Curriculum Frameworks and the new draft Grade-Level Expectations (GLE’s). Half-day field and laboratory experiences on weekends will replace some weeknight class sessions. Credit 3 units.

U08 Educ 6018 Hands-on Science K-8: Diversity of Life
This course includes laboratory experiences, discussion, exploration of different teaching strategies, and lectures designed to prepare teachers to implement or strengthen hands-on science teaching in grades K-8. The course topics include the taxonomy and characteristics of the major groups of protists, plants, and animals as well as issues affecting biodiversity (genetic, species, and ecosystem diversity). Inquiry activities that illustrate the content are selected in congruence with the National Science Education Standards and Missouri Show-Me Standards. A registration fee is collected the first night of class. Prerequisite: permission of instructor; intended for in-service teachers, grades K-8. Credit 3 units.

U08 Educ 6019 Researched Practices in Math Instruction
A pedagogy course for practicing teachers in the elementary and middle school, grades K-8. The course is an introduction to research-proven practices in mathematics, supported by math content. These pedagogical practices include the use of student-work to inform conceptual development, the use of small-group instruction as situated in a diverse set of classroom organizational patterns, approaches to conceptual change and conceptual development, uses of formative assessment, direct instruction, etc. For any particular workshop, a set of approaches and the research associated with it are presented in relation to standards-based content topics. Participants are engaged in developing their math content and pedagogical skills with a primary emphasis on the learning of high quality classroom practices. Participants conduct an implementation project at their school or learning site to ensure that what they learn is effectively applied within their own classroom setting. Credit variable, maximum 6 units.

U08 Educ 6020 Statistics for Teachers I
This course addresses statistical reasoning for teachers. The course begins by exploring student understanding of basic statistical concepts underlying data exploration and description. Concepts of data displays (bar graphs, histograms, circle graphs, etc.) are used to explore the ideas of distribution, variation, and measures of central tendency (mean, median, and mode). Also introduced are approaches to exploring covariation, both as simple ideas of correlation and linear relation. The course also includes an introduction of issues of precision and error and the underlying role of probability in examining data relations. The software Fathom is used along with examples of student work. Tabletop software will also be used as a tool for examining databases and analyzing, categorizing and sorting databases according to attributes and in search of patterns. Representations include stacks, plots, and venn diagrams. Using these two tools, teachers will be confident of how to assist students in a) successfully formulating statistical items on statewide tests, b) using statistics and databases to conduct investigations in science and c) preparing students for statistical concepts in later grades. Credit 3 units.

U08 Educ 6022 Improving Content and Instruction: Algebra
This course will focus on topics in algebra, focusing on topics covered in the national framework standards document, grades 4-9. Prerequisite: must be a practicing teacher and approval of the instructor. Credit 3 units.

U08 Educ 6023 Scientific Inquiry: Advanced Pedagogy for Educators, Part II
This course is designed to prepare teachers to strengthen skills associated with the delivery of a successful inquiry-based science curriculum in the K-8 classroom. Through laboratory experiences and discussions, teachers will work on a variety of pedagogical skills including developing questioning strategies and sequencing activities to support the various experiential levels of students. Participants will conduct an implementation project at their school or learning site. Scientific themes, structured in accordance with national and state standards, vary by semester. This is Part II of a two-part series. Credit 1.5 units.

U08 Educ 6100 Practical Strategies for Teachers to Affect Personal Change
This course features six 1-credit hour sections covering diverse topics. The course is designed for teachers who want to develop skills and knowledge which they can apply to their classrooms. The sections do not overlap and each is independent of the others. Teachers may choose to enroll in as few (one) or as many (up to six) topic sections as they desire and will receive 1 credit hour for each topic section they successfully complete. Student can enroll in more than one section at a time up to a maximum of six. Credit 1 unit.