

# Curriculum and Instruction

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## Undergraduate Degrees

- Bachelor of Arts in Education with EC-6 Bilingual Teacher Certification (<http://catalog.uta.edu/education/curriculum/undergraduate/>)
- Bachelor of Arts in Education with EC-6 ESL Teacher Certification (<http://catalog.uta.edu/education/curriculum/undergraduate/>)
- Bachelor of Arts in Education with 4-8 Middle-Level English Language Arts/Social Studies Teacher Certification (<http://catalog.uta.edu/education/curriculum/undergraduate/>)
- Bachelor of Science in Education with 4-8 Middle-Level Math/Science Teacher Certification (<http://catalog.uta.edu/education/curriculum/undergraduate/>)
- Bachelor of Science in Education with EC-12 Special Education and EC-6 Core Subjects Teacher Certification (<http://catalog.uta.edu/education/curriculum/undergraduate/>)

## Graduate Degrees

- Master of Education in Teaching (M.Ed.T.) with Teacher Certification (<http://catalog.uta.edu/education/curriculum/graduate/#masterstext>)
- Master of Education in Curriculum and Instruction (<http://catalog.uta.edu/education/curriculum/graduate/#medcurriculum/>)
- Master of Education in Curriculum and Instruction - Science Education (<http://catalog.uta.edu/education/curriculum/graduate/#medscience/>)
- Master of Education in Curriculum and Instruction - Mathematics Education (<http://catalog.uta.edu/education/curriculum/graduate/#medmath/>)
- Master of Education in Curriculum and Instruction - Literacy Studies (<http://catalog.uta.edu/education/curriculum/graduate/#masterstext>)
- Master of Education in Mind, Brain, and Education (<http://catalog.uta.edu/education/curriculum/graduate/#masterstext>)
- Master of Education in Special Education (<https://catalog.uta.edu/education/curriculum/graduate/#masterstext>)

## Professional Certification Preparation

- Initial Teacher Certification (<http://catalog.uta.edu/education/curriculum/graduate/#initialteachercertificate/>)
- Reading Specialist Certification (<http://catalog.uta.edu/education/curriculum/graduate/#readingspecialistcertificate/>)
- English as a Second Language (ESL) (<http://catalog.uta.edu/education/curriculum/graduate/#eslcertificate/>)
- Bilingual Education (BIL) (<http://catalog.uta.edu/education/curriculum/graduate/#bilingualcertificate/>)

## COURSES

### **BEEP 3381. INTRODUCTION TO SPECIAL LANGUAGE PROGRAMS. 3 Hours.**

Legal foundations and historical development of bilingual education, dual language, and special language programs will be introduced. Various models of bilingual education and English as a Second Language will be examined. An overview of special education, gifted and talented, and compensatory education legislation and its impact on the implementation of special language programs will be examined.

### **BEEP 4302. IMPLEMENTATION OF EC-6 DUAL LANGUAGE CURRICULUM MODELS. 3 Hours.**

This course addresses programmatic, cultural, academic and linguistic considerations for the creation, implementation and maintenance of dual language curriculum models in EC-6 settings. In the course students will explore and implement various research-based teaching methods and strategies used in effective programs. It will also cover key components of dual language teaching and learning, including curriculum alignment (e.g., horizontal, vertical, spiral), language separation, and parent collaboration. Prerequisite: BEEP 4305.

### **BEEP 4305. BILITERACY DEVELOPMENT IN DUAL LANGUAGE PROGRAMS. 3 Hours.**

Analysis of the structure of English and Spanish including phonology, morphology, syntax, semantics, lexicon, and pragmatics. Topics also include language interference and cross-linguistic transfer to promote biliteracy.

### **BEEP 4306. FAMILY LITERACY AND SECOND LANGUAGE ACQUISITION. 3 Hours.**

Examines the relationships among family literacy, second-language acquisition, and literacy development in children. The course provides opportunities for students to explore a variety of home-school literacy programs designed to facilitate the development of literacy skills in parents and support reading and writing at home. Specific focus on theories regarding the relationship between first and second language acquisition and early education. Prerequisite: BEEP 3381.

### **BEEP 4311. MATH IN DUAL LANGUAGE SETTINGS. 3 Hours.**

Integration of mathematic concepts in relation to the cognitive and linguistic development of English learners (ELs). Analysis of the State curriculum for mathematics in K-6. Design and implementation of instruction in dual language settings. Field experience required. Prerequisite: BEEP 3381.

### **BEEP 4312. SCIENCE AND HEALTH EDUCATION IN DUAL LANGUAGE SETTINGS. 3 Hours.**

Integration of science and health concepts in relation to the cognitive and linguistic development of English learners (ELs). Analysis of the State curriculum for health and science in K-6. Design and implementation of instruction in dual language settings. Field experience required.

**BEEP 4314. CREATIVE ARTS AND SOCIAL STUDIES IN DUAL LANGUAGE SETTINGS. 3 Hours.**

Integration of visual arts, music, and social studies with a focus on instructional processes and skills for increasing children's understanding and appreciation of aesthetics. Implementation of the Texas Curriculum in Social Studies and Art Education in EC-6 dual-language classrooms; field experience required.

**BEEP 4319. ASSESSMENT OF CULTURALLY AND LINGUISTICALLY DIVERSE STUDENTS IN EC-6 SETTINGS. 3 Hours.**

Study of formal and informal assessment instruments and techniques for assessing the language development and literacy of English Learners(ELs) in EC-6 classrooms. Also, focus on diagnosing literacy learning strengths and needs.

**BEEP 4366. SPANISH FOR TEACHERS IN DUAL LANGUAGE PROGRAMS: AN IMMERSION APPROACH. 3 Hours.**

Development of Spanish proficiency for bilingual education teacher candidates through an immersion approach. Emphasis on concepts, functions and the scenarios used in the Spanish proficiency examination required for bilingual education teacher candidates.

**BEEP 4382. LITERACY INSTRUCTION IN SPANISH FOR THE BILINGUAL CLASSROOM. 3 Hours.**

Focuses on the development of literacy for bilingual children. Specific emphasis will be placed on the rationale, methods, and materials for literacy instruction in Spanish. The successful transition from first-language literacy instruction to literacy instruction in English will also be addressed. The course will be delivered in Spanish and students will be exposed to content and techniques to master the oral and written components of the Spanish language proficiency test required to become certified in bilingual education. Prerequisite: BEEP 4305, BEEP 4302.

**BEEP 4384. LITERACY METHODS FOR ESL/BILINGUAL CLASSROOMS. 3 Hours.**

The rationale and implementation of various instructional methods for English learners (ELs) will be discussed. Examination of language instruction for students at different stages of development. Sheltered English instruction for the teaching of content areas will also be presented. Students will be assigned to a special language program to examine methods of instruction and modifications for language minority children. Prerequisite: BEEP 3381, BEEP 4306.

**BEEP 4385. SHELTERED ENGLISH INSTRUCTION. 3 Hours.**

Analysis of the linguistic, cognitive, academic and cultural considerations required to provide meaningful and developmentally appropriate content area instruction to English language learners (ELLs) in PK-6. Prerequisite: BEEP 3381.

**BEEP 4687. CLINICAL TEACHING IN EC-6 BILINGUAL/ESL CLASSROOMS. 6 Hours.**

Full-time supervised and directed clinical teaching in EC-6 bilingual and ESL classrooms. Clinical teaching must immediately follow the field experience semester. Prerequisites: BEEP 4311, BEEP 4312, and BEEP 4314.

**BEEP 5315. CLINICAL TEACHING. 3 Hours.**

Clinical teaching in candidate's certification area(s). This semester-long experience will help candidates apply theory and research to practice.

**BEEP 5318. FOUNDATIONS IN BILINGUAL EDUCATION. 3 Hours.**

Analyzes the development of bilingual education in the United States. Introduces bilingual education program models and discusses research findings on their effectiveness.

**BEEP 5321. ESL METHODS FOR EC-6 LEARNERS. 3 Hours.**

Compares first and second-language acquisition processes. Identifies effective teaching practices to meet the needs of English learners (ELs). Analyzes elements from Spanish that can affect the acquisition of literacy in English. Offered as BEEP 5321 and LIST 5361. Credit will only be counted towards one program.

**BEEP 5361. LANGUAGE LEARNING: EDUCATIONAL PERSPECTIVES PRACTICUM II. 3 Hours.**

The practicum provides opportunities to apply effective instructional practices in teaching ESL students. Deals with the relationship between first and second language acquisition and literacy, dialect, linguistics, culture; nature and definition of language; overview of linguistic science and language with pedagogical applications.

**BEEP 5362. LITERACY INSTRUCTION IN ESL/BILINGUAL SETTINGS. 3 Hours.**

This course bridges theory to practice, stressing how the relationship between first and additional language acquisition and development can inform teaching ESL/bilingual students. Provides opportunities to apply effective instructional practices in teaching students to foster development in speaking, listening, reading, and writing within a framework of cultural understanding.

**BEEP 5363. LITERACY DEVELOPMENT IN ENGLISH AND SPANISH. 3 Hours.**

Focuses on the development of literacy in bilingual students with specific emphasis on the rationale, methods, and materials for literacy instruction in the student's home language. Attention to evaluating and supplementing first-language literacy materials and supporting the successful transition from first-language literacy instruction to literacy instruction in English.

**BEEP 5364. LITERACY INSTRUCTION IN SPANISH IN THE CONTENT AREAS. 3 Hours.**

Focuses on methods and materials for teaching content-area subjects in the student's home language. Additional focus on supporting the transition from home-language instruction to English-language instruction.

**BEEP 5365. ORGANIZATION & ADMINISTRATION OF DUAL LANGUAGE PROGRAMS. 3 Hours.**

Analysis of the research background and implementation of various models of dual language instruction. Insight of the process, data collection, and reporting requirements of the state and federal special populations legislation. This course requires an internship with the office of Federal Programs and/or the office of Bilingual/ESL Education in local school districts. Prerequisite: BEEP 5318.

**BEEP 5366. SPANISH FOR SCHOOL ADMINISTRATORS & TEACHERS. 3 Hours.**

Development of Spanish proficiency for teachers and administrators through an immersion approach. Emphasis on concepts and terminology related to education, program administration, community involvement, and communication with Spanish-speaking parents. This course can be repeated.

**BEEP 5391. INDEPENDENT RESEARCH. 3 Hours.**

Research for course substitution or a topic agreed upon between the student and instructor. May be repeated for credit with permission.

**COURSES****EDML 4300. PRE-ADOLESCENT/ADOLESCENT GROWTH AND DEVELOPMENT. 3 Hours.**

Prerequisite to subsequent courses in teacher education. Physical, social, emotional, and cognitive growth patterns from emphasizing familial, cultural, societal, and genetic determinants of behavior. Topics include the following: developmental characteristics of pre-adolescents/ adolescents including exceptional learners and students with special needs, a variety of disabilities (Learning Disabled, Emotionally Disabled, Behavior Disorders, Attention Deficit Hyperactivity Disorder, etc.), the creation and purpose of Individual Education Plans, concepts, and forms, as well as the IDEA law, its application and ethical considerations. The course also includes a field component.

**EDML 4350. NATURE & CURRICULUM NEEDS OF THE YOUNG ADOLESCENT LEARNER. 3 Hours.**

Examines the curriculum, instruction, and organization of middle grades schools. Provides a substantial knowledge base in the nature and needs of early adolescents, as well as in middle school curriculum, instruction, and behavior management. A variety of instructional approaches will be discussed including the purpose and need for appropriate language, behavior, and disability modifications, inclusion, resource, content mastery, and others. Theory and practice in the teaching of students with special needs will be addressed. The course also includes a field component. Prerequisite: Admitted to the Middle Level Program.

**EDML 4360. TEACHING STUDENTS WITH SPECIAL NEEDS - A SURVEY. 3 Hours.**

Theory and practice in the teaching of students with special needs, including a survey of the variety of disabilities (LD, ED, physical handicapped, conduct, ADD, ADHD, etc.), the creation and purpose of Individual Education Plans, concepts and forms. The IDEA law and its application, and ethical considerations. A variety of instructional approaches will be discussed including the purpose and need for appropriate modifications, inclusion, resource, consult, content mastery and others. Special emphasis will be the State basic skills assessment and the State developed alternative assessment.

**EDML 4370. SOCIAL STUDIES & DIVERSITY IN THE MIDDLE LEVEL GRADES. 3 Hours.**

Examination of materials, methods, content, and assessment learning experiences associated with middle level social studies. Content areas include history, geography, economics, government, citizenship, culture, science, technology, and society. Prerequisites: EDML 4300 & EDML 4350; BEEP 4384; LIST 4343.

**EDML 4371. SCIENCE IN THE MIDDLE LEVEL GRADES. 3 Hours.**

Instructional approaches, management, materials, and effective teaching practices pertinent to teaching science in the middle level grades; the organization of science content and the selection and implementation of lesson designs which utilize a hands-on approach promoting discovery and inquiry. This Inquiry course involves a two-hour lecture and two-hour application of lecture /theory. The two-hour application of lecture/theory will require students to spend time in a 4-8 classroom during normal school hours. Prerequisites: EDML 4300, EDTC 4301, and EDML 4350.

**EDML 4372. MATHEMATICS IN THE MIDDLE LEVEL GRADES. 3 Hours.**

Curriculum standards, methods, and effective teaching practices as proposed by the National Council of Teachers of Mathematics for the middle level; the organization of mathematics content with an emphasis on using manipulatives and technology to teach math. This inquiry course involves a two-hour lecture and two-hour application of lecture/theory. The two-hour application of lecture/theory will require students to spend time in a 4-8 classroom during normal school hours. Prerequisite: EDML 4350.

**EDML 4676. MIDDLE LEVEL FIELD-BASED EXPERIENCE. 6 Hours.**

Supervised and directed field-based experience, Monday through Thursdays. Candidates will be placed in two settings: an early grade (4,5,6) and late grade (6,7,8) experience as well as in two content areas. Prerequisite: EDML 4300, EDML 4350, LIST 4343, and BEEP 4384. This course must be taken just prior to student teaching (EDML 4677).

**EDML 4677. MIDDLE LEVEL CLINICAL TEACHING. 6 Hours.**

Supervised and directed clinical teaching experience in an approved field setting, Monday through Friday. Candidates will be assigned for the Independent School District (ISD) calendar. Candidates will be placed in two settings: an early grade (4,5,6) and late grade (6,7,8) experience as well as in two content areas. Required seminars will provide candidates with theory to integrate and apply during clinical teaching. Prerequisites: LIST 4378.

**EDML 5302. SCIENCE IN THE MIDDLE GRADES. 3 Hours.**

The examination of instructional strategies, materials, current research, and technology pertinent to teaching science in the middle grades; the scope and sequence of science content and implementation of instructional approaches to accommodate diverse student populations.

**EDML 5303. MATHEMATICS IN THE MIDDLE GRADES. 3 Hours.**

The examination of instructional strategies, materials, current research, and technology pertinent to teaching mathematics in the middle grades; the scope and sequence of math content and the selection and implementation of instructional approaches to accommodate diverse student populations.

**EDML 5304. SOCIAL STUDIES IN THE MIDDLE GRADES. 3 Hours.**

An examination of content, methods, current research, and learning theory appropriate for social studies education in the middle grades. Special attention to methods that promote analytical and evaluative abilities necessary for participatory democracy in a culturally diverse society.

**EDML 5308. MIDDLE GRADES ORGANIZATION, INSTRUCTION, AND MANAGEMENT. 3 Hours.**

The examination of principles, theories, and research related to developmentally responsive middle level programs, effective instruction and effective strategies of classroom management. Attention is given to the employment of a variety of approaches for developing an appropriate climate to meet the varying needs of the middle level student.

**EDML 5315. CLINICAL TEACHING. 3 Hours.**

Clinical teaching in candidate's certification area(s). This longitudinal experience will help candidates apply theory and research to practice.

**EDML 5328. PREADOLESCENT/ADOLESCENT GROWTH, DEVELOPMENT, AND LEARNING THEORY. 3 Hours.**

Course will focus on physical, social, emotional, and cognitive growth patterns of 10- to 15-year-old children, emphasizing familial, cultural, societal, and genetic determinants of behavior. Attention is given to current research regarding the developmental characteristics of adolescents, including exceptional learners and students with special needs.

**EDML 5391. INDEPENDENT RESEARCH. 3 Hours.**

Research for thesis substitute or equivalent over a topic agreed upon between the student and instructor. May be repeated for credit with permission.

**COURSES****EDTC 4201. TECHNOLOGY APPLICATIONS. 2 Hours.**

This course is for K-12 educators who are interested in integrating technology into teaching and learning. Its focus is on the technology applications Texas Essential Knowledge and Skills (TEKS). Participants should gain a greater understanding of the technology applications TEKS and how to introduce them into curriculum. Study and application of technology use in educational environments. Topics include: instructional learning and computer software.

**EDTC 4301. TECHNOLOGY APPLICATIONS. 3 Hours.**

This course is for K-12 educators who are interested in integrating technology into teaching and learning. Focus is on the technology applications Texas Essential Knowledge and Skills (TEKS). Participants should gain a greater understanding of the technology applications TEKS and how to introduce them into curriculum. Study and application of technology use in educational environments. Topics include: instructional learning and computer software.

**EDTC 5190. SELECTED TOPICS IN EDUCATION. 1 Hour.**

An examination of different topics related to education. This seminar may be repeated for credit as the topic changes.

**EDTC 5191. INDEPENDENT RESEARCH. 1 Hour.**

Research for thesis substitute or equivalent over topic agreed upon between student and instructor. May be repeated for credit with permission.

**EDTC 5290. SELECTED TOPICS IN EDUCATION. 2 Hours.**

An examination of different topics related to education. This seminar may be repeated for credit as the topic changes.

**EDTC 5291. INDEPENDENT RESEARCH. 2 Hours.**

Research for thesis substitute or equivalent over topic agreed upon between student and instructor. Can be repeated for credit with permission.

**EDTC 5300. INTRODUCTION TO FOUNDATION OF EDUCATION INSTRUCTIONAL DESIGN AND TECHNOLOGY. 3 Hours.**

Analysis of integrating TEKS, computers and related technologies in education. Topics include issues and concerns prior to integration, use of software in teaching and learning, identifying resources and strategies for use of the World Wide Web, and creating instructional activities into and across curriculum.

**EDTC 5301. CURRENT APPLICATIONS OF TECHNOLOGY IN EDUCATION. 3 Hours.**

Study of technology use in educational environments. Topics include: instructional, learning, assessment, and management applications; a review of current research on selection, evaluation, and integration of appropriate media; and computer hardware, software, and multimedia.

**EDTC 5302. INTERNET IN EDUCATION. 3 Hours.**

Course is designed to aid educators and training professionals in developing robust techniques for locating, utilizing, and creating Internet resources for professional productivity and research.

**EDTC 5310. COMPUTER APPLICATIONS IN CURRICULUM AND INSTRUCTION. 3 Hours.**

Designed for both elementary and secondary teachers; skills and methods necessary to implement computer applications within the curriculum. Methods for managing the computer in the classroom, courseware telecommunications within the curriculum.

**EDTC 5320. WEB AUTHORING. 3 Hours.**

Study of Web site planning, development and HTML tagging. Topics include: storyboards, content creation, Web site tagging with browser independent tags, use of color and fonts to communicate concepts, interactivity by design, ethical use of and respect for intellectual property, understand copyright, fair use, patent, and trademarks, the Master Technology Teacher Standards (EC-12) and the Standards for Basic Endorsement in Educational Computing and Technology Literacy.

**EDTC 5330. DESKTOP PUBLISHING. 3 Hours.**

Study of desktop publishing planning, development, and production. Topics include: desktop publishing terminology, basic design theory, principles of form and design, guidelines for desktop publishing, ethical use of and respect for intellectual property, understand copyright, fair use, patent, and trademarks, the Master Technology Teacher Standards (EC-12) and the Standards for Basic Endorsement in Educational Computing and Technology Literacy.

**EDTC 5340. MULTIMEDIA. 3 Hours.**

Study of multimedia planning, development, and implementation that maximize the use of technology, student learning, and teacher effectiveness. Topics include: methodologies for tutorials, hypermedia, drills, simulations, educational games, open-ended learning environments, testing, Web-based learning, interactivity by design, ethical use of and respect for intellectual property, understand copyright, fair use, patent, and trademarks, the Master Technology Teacher Standards (EC-12) and the Standards for Basic Endorsement in Educational Computing and Technology Literacy.

**EDTC 5390. SELECTED TOPICS IN EDUCATION. 3 Hours.**

An examination of different topics related to education. This seminar may be repeated for credit as the topic changes.

**EDTC 5391. INDEPENDENT RESEARCH. 3 Hours.**

Research for thesis substitute or equivalent over topic agreed upon between student and instructor. May be repeated for credit with permission.

**COURSES****EDUCIR 5391. INDEPENDENT RESEARCH. 3 Hours.**

Research for thesis substitute or equivalent over a topic agreed upon between the student and instructor. May be repeated for credit with permission.

**COURSES****EDUC 2101. EXPLORING TEACHING. 1 Hour.**

An opportunity to experience a mentorship with public school students while exploring the impact Gardner's Multiple Intelligences and personality profiles play in the learning environment. Ten hours of mentorship required. Academic credit awarded. Service Learning course.

**EDUC 2302. THE PROFESSIONAL EDUCATOR. 3 Hours.**

This course introduces students to the teaching profession. Professionalism, ethics, learning theory and historical foundations, advocacy, and current trends and issues in education will be examined. Students will develop a personal philosophy of education. This course fulfills the University requirement for either UNIV 1101 or UNIV 1131.

**EDUC 2330. STUDENT LEADER EFFECTIVENESS TRAINING. 3 Hours.**

Identifies the philosophy and theories of leadership, leadership styles, and contemporary leadership issues for any student who desires to pursue their leadership education. Practical application of leadership skills are developed through interactive class discussions, analyzing case studies, and group problem-solving and role-playing experiences. Elective only and does not count as part of the professional education certification requirements.

**EDUC 3301. TEACHING DIVERSE LEARNERS. 3 Hours.**

A survey course that focuses on effective differentiated instruction, assessment, and management strategies for working with diverse learners to build capacity for constructing a culturally responsive learning environment. Designed to provide increased self-awareness and insight into issues of diversity. Additionally, students will examine education law and models related to diverse learners as well as strategies for working with parents and families of diverse learners. Students will evaluate multicultural context, demographics, and practices at a local school. This course requires students to spend a minimum of 20 hours a semester in a K-12 classroom.

**EDUC 3333. STEM EDUCATION IN THE PK-12 CONTEXT. 3 Hours.**

Methods and materials for integrated STEM teaching and learning in the PK-12 context. Emphasis on developing best practices for an integrated context that combines and makes connections between science, technology, engineering, and mathematics. This includes, but is not limited to, project and problem-based learning, real world problem solving, inquiry-based instruction, computational thinking, and engineering design. Includes field-experience in a PK-12 STEM setting.

**EDUC 3390. SPECIAL TOPICS IN EDUCATION. 3 Hours.**

An examination of different topics related to education. This seminar may be repeated for credit as the topic changes.

**EDUC 4316. FOUNDATIONS OF EDUCATION. 3 Hours.**

The course introduces students to the teaching profession. Historical foundations, professionalism, school law (including special education law), diversity in education, effective communication, family involvement, and current trends and issues in education will be examined. Students will also examine personal reasons for wanting to teach and will create a personal philosophy of education. Field observation required. (2-1).

**EDUC 4318. POSITIVE CLASSROOM MANAGEMENT. 3 Hours.**

A survey of effective strategies of classroom management based on contemporary research. Particular attention will be paid to creating proactive learning environments through positive behavioral interventions and supports. Outcomes students will demonstrate include: instructional management and application of positive behavioral supports, procedures of assessment for planning classroom management; understanding of functional behavior assessment, a continuum of behavioral support, and the role of behavioral strategies in instructional classroom management; and understanding classroom management systems and instructional formats.

**EDUC 4319. CLASSROOM ASSESSMENT. 3 Hours.**

This course will introduce students to classroom assessment strategies that are used to inform teaching. Focus will include ways to interpret standardized test results and also create and use authentic classroom-based assessments to design and deliver differentiated instruction. Data-based instructional decisions will also be introduced. Course will include a field-based component.

**EDUC 4325. WOMEN IN SCIENCE. 3 Hours.**

Explores the role of women in science. Emphasis on gender and science, the history of women in science, gender equity in the classroom, strategies for the retention of women scientists, the current culture/climate for women in science, and contemporary women in science. Offered as EDUC 4325, SCIE 4325, and WOMS 4325. Credit will be granted only once.

**EDUC 4331. KNOWING AND LEARNING IN MATH AND SCIENCE. 3 Hours.**

Restricted to students in the UTeach Arlington program. Psychological foundations of learning; problem solving in mathematics and science education utilizing technology; principles of expertise and novice understanding of subject matter; implications of high-stakes testing; and foundations of formative and summative assessment. Three lecture hours a week for one semester; additional hours may be required. Prerequisite: SCIE 1201 or SCIE 1334 or concurrent enrollment in either.

**EDUC 4332. CLASSROOM INTERACTIONS. 3 Hours.**

Restricted to students in the UTeach Arlington program. Principles of delivering effective instruction in various formats (lecture, lab activity, collaborative settings); examination of gender, class, race, and culture in mathematics and science education; overview of policy related to mathematics and science education. Three lecture hours a week for one semester with additional fieldwork hours to be arranged. Prerequisite: C or better in SCIE 1202 or C or better in SCIE 1334; C or better in EDUC 4331 or concurrent enrollment.

**EDUC 4333. MULTIPLE TEACHING PRACTICES IN MATH AND SCIENCE. 3 Hours.**

Restricted to students in the UTeach Arlington program who have earned a passing score on the preliminary portfolio. Multiple research-based teaching practices including foundations of project-based, case-based, and problem-based learning environments; principles of project-based curriculum development in mathematics and science education; classroom management and organization of inquiry-based, problem-based/project-based learning classrooms. Three lecture hours a week for one semester with additional fieldwork hours to be arranged. Prerequisite: C or better in EDUC 4332; formal admission to program.

**EDUC 4340. HUMAN GROWTH AND DEVELOPMENT. 3 Hours.**

Prerequisite to subsequent courses in teacher education. Physical, social, emotional, and cognitive growth patterns from conception to early adulthood, emphasizing familial, cultural, societal, and genetic determinants of behavior. Topics include developmental characteristics of children and adolescents including exceptional learners and students with special needs.

**EDUC 4341. ORGANIZATION AND MANAGEMENT OF INSTRUCTION IN SECONDARY SCHOOLS. 3 Hours.**

Emphasizes the importance of organizing, developing, and adapting management systems to enhance learning in classroom environments. Managing the teaching-learning process, applying a variety of assessment techniques, motivation, and adapting management styles to meet student needs. This course involves a two-hour lecture and two-hour application of lecture/theory. The two-hour application of lecture/theory will require students to spend time in a K-12 classroom during normal school hours, 8 a.m.-4 p.m., Monday-Friday.

**EDUC 4342. APPLICATIONS OF INSTRUCTION IN MIDDLE/SECONDARY SCHOOL CLASSROOMS. 3 Hours.**

Field-based applications of inquiry-based curriculum planning and instructional theory and methods. Includes writing and implementing unit and instructional goals and objectives, using instructional lesson models to meet teacher appraisal criteria including utilization of classroom technology and audiovisual aids, planning for individual needs, and evaluating student progress. This course involves a lecture and application of lecture/theory. The application of lecture/theory will require students to spend time in a Grades 4-12 classroom during normal school hours, Monday-Friday, for typically one day a week throughout the semester.

**EDUC 4343. TEACHING SOCIAL STUDIES IN THE SECONDARY SCHOOL. 3 Hours.**

Methods and materials for social studies teaching and learning at the secondary school level. Emphasis on establishing a productive classroom environment, curriculum planning, implementation of effective instructional strategies, integration of educational technologies, and assessing student learning. Includes field-experience in a social studies classroom in a local middle or high school. The application of lecture/theory will require students to spend time in a grades 7-12 social studies classroom during normal school hours, Monday-Friday, for typically one day a week throughout the semester.

**EDUC 4344. TEACHING IN MIDDLE/SECONDARY SCHOOL SCIENCE CLASSROOMS. 3 Hours.**

Methods and materials for inquiry-based science teaching and learning at the middle/secondary level. Emphasis on establishing a productive classroom environment, curriculum planning, implementation of effective instructional strategies, integration of educational technologies, and assessing student learning. Includes field-experience in a science classroom in a local middle or high school. The application of lecture/theory will require students to spend time in a Grades 4-12 science classroom during normal school hours, Monday-Friday, for typically one day a week throughout the semester.

**EDUC 4345. TEACHING IN MIDDLE/SECONDARY SCHOOL MATHEMATICS CLASSROOMS. 3 Hours.**

Methods and materials for inquiry-based mathematics teaching and learning at the middle/secondary school level. Emphasis on establishing a productive classroom environment, curriculum planning, implementation of effective instructional strategies, integration of educational technologies, and assessing student learning. Includes field-experience in a mathematics classroom in a local middle or high school. The application of lecture/theory will require students to spend time in a Grades 4-12 mathematics classroom during normal school hours, Monday-Friday, for typically one day a week throughout the semester.

**EDUC 4346. SECONDARY SCHOOL CULTURE AND THE TEACHING PROFESSION. 3 Hours.**

School cultures, effective schools and teaching practices, stages of professional development, foundations of American schools, legal and ethical aspects, and societal demands on the school.

**EDUC 4347. SECONDARY SCHOOL INTERNSHIP WITH TECHNOLOGY APPLICATIONS. 3 Hours.**

Supervised and directed professional practice in a local secondary school. The student will be assigned to a public school site for five hours per week. Weekly seminars are required. Internship must be taken the semester prior to residency. Theory from technology will be applied during internship assignment.

**EDUC 4352. TEACHING DIVERSE POPULATIONS. 3 Hours.**

Effective instruction, assessment, and management strategies for working in diverse educational settings. Designed to provide increased self-awareness and insight into issues of diversity such as culture, ethnicity, exceptionality, gender, language, religion, and socioeconomic status. This course involves a two-hour lecture and two-hour application of lecture/theory. The two-hour application of lecture/theory will require students to spend time in a K-12 classroom during normal school hours, 8 a.m.-4 p.m., Monday-Friday.

**EDUC 4390. SELECTED TOPICS IN EDUCATION. 3 Hours.**

An examination of different topics related to education. This seminar may be repeated for credit as the topic changes.

**EDUC 4391. CONFERENCE COURSE. 3 Hours.**

Independent study in the preparation of a project or a paper on a research topic; consultation with instructor on a regular basis. May be repeated for credit. Prerequisite: permission of instructor.

**EDUC 4647. CLINICAL TEACHING IN MIDDLE/SECONDARY SCHOOL/ALL-LEVEL CLASSROOMS. 6 Hours.**

Supervised and directed clinical teaching in student's targeted area of certification. The student will be assigned full time for the Independent School District calendar. Required seminars provide students with theories/backgrounds/strategies to integrate and apply during clinical teaching. Students will apply theory and research to practice through daily teaching and interaction with students, major assignments, and data analysis of practice. Prerequisite: Office of Educational Field Experiences approval required.

**EDUC 5190. SELECTED TOPICS IN EDUCATION. 1 Hour.**

An examination of different topics related to education. This seminar may be repeated for credit as the topic changes.

**EDUC 5191. INDEPENDENT RESEARCH. 1 Hour.**

Research for thesis substitute or equivalent over a topic agreed upon between the student and instructor. May be repeated for credit with permission.

**EDUC 5263. READING AND DEVELOPMENT. 2 Hours.**

This course will focus on the acquisition of reading skills in the typically developing child. Sub-skills and precursors of reading such as visual and phonological processing will be examined from a neurological point of view. This foundational knowledge will then be applied to researching reading difficulties as well as the teaching and learning in the classroom for typically developing students and those with reading difficulties.

**EDUC 5290. SELECTED TOPICS IN EDUCATION. 2 Hours.**

An examination of different topics related to education. This seminar may be repeated for credit as the topic changes.

**EDUC 5291. INDEPENDENT RESEARCH. 2 Hours.**

Research for thesis substitute or equivalent over a topic agreed upon between the student and instructor. May be repeated for credit with permission.

**EDUC 5305. EFFECTIVE TEACHING AND LEARNING FOR 21ST CENTURY EC-12 STUDENTS. 3 Hours.**

Students gain understanding of the nature of learning and the purpose of education as the pedagogical foundation to teaching in any discipline. Students develop knowledge of state and national standards and apply these standards vertically and horizontally in preparing high quality teaching and learning experiences. Students gain experience critically analyzing disciplinary content, instructional models, lessons, curricula, and research literature. Students learn to construct and test instructional models using activities that focus attention on diversity, authentic assessments, intellectual, social and emotional development, interdisciplinary connections, and technology. Must be taken prior to EDUC 5309.

**EDUC 5309. ADVANCED TEACHING MODELS FOR DIVERSE LEARNERS. 3 Hours.**

Students engage in the advanced study and design of curriculum models with an understanding of cognitive development, pedagogical content knowledge (PCK), and learning progressions. Students learn in-depth analyses of how students learn and how to appropriately differentiate instruction. Students learn culturally responsive teaching practices and gain skill in developing learning experiences that attend to teaching diverse learners. Prerequisite: EDUC 5305.

**EDUC 5310. DIVERSE POPULATIONS IN TODAY'S SCHOOLS. 3 Hours.**

An overview of the diverse populations in today's schools and effective instruction, assessment, and management strategies for working in diverse educational settings. Urban, suburban, and rural school communities and populations will be addressed with special attention to issues of human growth and development, culture, ethnicity, exceptionality, gender, language, religion and socioeconomic status. This course application of lecture/theory which will require students to spend a minimum of 20 hours in a K-12 classroom during normal school hours.

**EDUC 5314. EFFECTIVE CLASSROOM INSTRUCTION. 3 Hours.**

Designed to provide teachers with skills and competencies based on research findings on effective teaching and instruction related to promoting student academic achievement. Includes identifying, developing, and practicing instructional variables that affect teacher performance and student learning tasks. Includes field-experience in a local middle or high school based on teacher candidate's certification program. The application of lecture/theory will require candidates to spend time in a grades 7-12 classroom during normal school hours, Monday-Friday.

**EDUC 5315. CLINICAL TEACHING. 3 Hours.**

Supervised clinical teaching in candidate's area of certification. Candidates will be assigned full-time according to school district calendar. Required seminars provide candidates with theory to integrate and apply during clinical teaching. This experience will help candidates apply theory and research to practice through daily teaching and interaction with students, major assignments, and data analysis.

**EDUC 5321. EDUCATIONAL RESEARCH. 3 Hours.**

Examination of basic concepts and procedures necessary for empirical research investigations within classroom contexts, experimental design, data collection and interpretation, and statistical analysis.

**EDUC 5322. EDUCATIONAL RESEARCH AND EVALUATION. 3 Hours.**

An overview of basic concepts and procedures necessary for analyzing, designing, and conducting quantitative and qualitative educational studies. A focus on educational research, including empirical research, investigations data collection and interpretation, and statistical analysis. Also, a focus on educational evaluation including accreditation, personnel appraisal, and educational programs and materials.

**EDUC 5329. CLASSROOM MANAGEMENT AND DISCIPLINE. 3 Hours.**

Analysis of the variables that affect teacher and student behavior in the classroom. Survey of effective strategies of classroom management and discipline based on contemporary research. Particular attention to individual student differences in settings such as gifted and talented, handicapped, and learning disabled.

**EDUC 5330. LEADERSHIP IN THE INSTRUCTIONAL SETTING. 3 Hours.**

Examination of current research on effective instructional organizations and classroom instruction in today's schools, on characteristics of school leadership, and on the role and function of the teacher as instructional leader. Topics include the essential components of instruction, developing instructional-management systems, evaluating student and teacher performance, assisting colleagues to monitor and improve instructional skills, school climate and leadership styles as they impact on school improvement.

**EDUC 5358. THEMATIC SCIENCE FOR ELEMENTARY AND SECONDARY TEACHERS. 3 Hours.**

Professional development program for elementary and secondary science teachers who will examine a variety of instructional strategies. The course will provide a broad spectrum of content from all areas of science and provide opportunities to participate in investigations, field trips and seminars. The course will facilitate the implementation of a thematic science curriculum in elementary and secondary schools through research-based practices.

**EDUC 5359. ENVIRONMENTAL SCIENCE FOR ELEMENTARY AND SECONDARY TEACHERS. 3 Hours.**

Designed for elementary, middle and high school teachers who will examine a variety of environmental education issues and instructional strategies for classroom and outdoor settings. The course will provide a broad spectrum of content from all areas of science and will provide opportunities to participate in field trips, science investigations and seminar sessions. It will facilitate the implementation of an environmentally based curriculum in schools using best practices.

**EDUC 5360. INTRODUCTION TO MIND, BRAIN, AND EDUCATION. 3 Hours.**

Students will explore central themes and issues in the field of learning sciences, which incorporates cognitive and educational psychology, along with neuroscience, to help educators teach better and students learn better. This course also offers a number of exercises to help students become researchers as well as consumers of research.

**EDUC 5361. INTRODUCTION TO EDUCATIONAL NEUROSCIENCE. 3 Hours.**

This course is designed to provide an introduction to foundational areas of neuroscience such as brain anatomy and brain mapping techniques and its applications to education. Students will study different viewpoints of links between education and neuroscience and develop their own notions of what educational questions might be answered with brain-based techniques.

**EDUC 5362. THE NEUROSCIENCE OF TYPICAL & ATYPICAL LANGUAGE DEVELOPMENT. 3 Hours.**

This course will examine the many levels of language including phonetics, phonology, semantics, syntax and pragmatics from both functional and neuroscientific perspectives. This will be closely tied to language acquisition and early language development. The focus on the pre-reading years will provide a solid basis for further study of literacy-related skills and overall learning. Sub-skills and precursors of reading will be examined from a neurological point of view and applied to researching reading difficulties as well as the teaching and learning in the classroom. Course offered as EDUC 5362 and SPED 5309; co-list credit will be granted only as one.

**EDUC 5363. THE NEUROSCIENCE OF TYPICAL & ATYPICAL DEVELOPMENT OF MATHEMATICAL AND REASONING ABILITY. 3 Hours.**

The course focuses on the development of problem-solving, logical, numeracy, and mathematical skills from a cognitive neurocognitive perspective. Woven throughout the course is attention to cognitive biases in scientific thinking. Two prominent features of the course include neuroplasticity as a result of organic and environmental pressures and brain-based disorders (dyscalculia, ADHD, autism) and adaptive strategies.

**EDUC 5364. EPISTEMOLOGY AND NEUROSCIENCE. 3 Hours.**

Students will explore the basic principles of reasoning and knowledge construction as well as their psychological and neurobiological underpinnings. Students compare and contrast the deductive and inductive methods used in decision-making and belief-forming processes. The course also highlights the role of the frontal cortex and limbic system in how learners address and resolve questions and challenges in varying contexts. The goal of the course is to offer students the theoretical structures and critical strategies necessary for assessing their own work toward the completion of the capstone project as well as for analyzing the outcomes it generates. The skills acquired in this course are widely transferrable and can help the student to become a better consumer and producer of pedagogical and scientific research.

**EDUC 5365. THEORETICAL AND CONCEPTUAL MODELS IN MIND, BRAIN, AND EDUCATION. 3 Hours.**

This course is designed to help students connect cognitive science to instructional practice. Students examine the roles that cognitive models play in learning and in designing lessons and curricula. The cognitive models in this course are used to provide a framework for recognizing possible strategies for improving or re-designing curricula, as well as build lessons or interventions that fit their working context. Students are expected to take part in a prototype curriculum, analyze how it was constructed and to use their insights to build a modest curriculum over the course of the semester.



**EDUC 5366. EVALUATING AND DEBUNKING EDUCATIONAL INTERVENTIONS. 3 Hours.**

This course focuses on making sense of the impact of interactions between educational variables in complex systems like classrooms and schools. Being able to predict outcomes in dynamic environments requires understanding that the variables themselves can change as a result of interacting with each other, which influences how we understand systems from neural networks to school districts. The general sense of the course will be to understand certain behaviors/characteristics of dynamic systems from the examination and analysis of exemplars from multiple domains. We also examine how areas of the brain demonstrate these characteristics and use them to implement certain functionalities, and in turn examine the implications of these functionalities on curriculum and instruction.

**EDUC 5367. RESEARCH METHODS IN MIND, BRAIN, AND EDUCATION. 3 Hours.**

This course presents an overview of the process of scientific inquiry, while fostering an understanding of research paradigms used by researchers in MBE. The primary course goals are to support students in developing a framework for their capstone project in MBE, and help them identify the research tools and methods necessary to carry out the capstone project. To support this work students analyze research from MBE as well as the wider literature to identify relevant tools, techniques and methodologies. As students develop expertise with the tools and techniques that are relevant to their capstone project they are expected to share that knowledge with their peers.

**EDUC 5368. CONDUCTING RESEARCH IN MIND, BRAIN, AND EDUCATION. 3 Hours.**

The goal of this course is to help students in the Mind, Brain and Education program complete their capstone project. Students work collaboratively with fellow students and with faculty oversight to prepare a poster presentation that summarizes their capstone work, as well as choose a local, national or international conference to present their work.

**EDUC 5370. INTRODUCTION TO GIFTED AND TALENTED CHILDREN. 3 Hours.**

Psychological characteristics of gifted and talented children. Introduction to identification techniques, educational programs, instructional approaches, and special problems.

**EDUC 5371. MEASUREMENT AND ASSESSMENT OF GIFTED AND TALENTED CHILDREN. 3 Hours.**

Tests, formal and informal measures, and systems for identification and selection of the gifted and talented student. Basic test construction theory, test interpretation, and test uses.

**EDUC 5372. METHODS, MATERIALS, AND CURRICULUM FOR THE GIFTED AND TALENTED. 3 Hours.**

Curriculum theory and curriculum design for the gifted student. Methodology for implementing practical and theoretical objectives for gifted instruction.

**EDUC 5373. CREATIVITY: THEORIES, MODELS, AND APPLICATION. 3 Hours.**

The concept of and current research on creativity, the nature and assessment of creative thinking, as well as methods of fostering creativity.

**EDUC 5374. PRACTICUM. 3 Hours.**

Participation in a gifted and talented setting supervised by a university and/or school district representative. A wide range of practical experiences will be emphasized. Graded P/F/R.

**EDUC 5380. DIVERSITY IN EDUCATIONAL SETTINGS. 3 Hours.**

Effective leadership, instruction, and management strategies for work in diverse educational settings. Designed to provide increased self-awareness and insight into issues of diversity such as culture, ethnicity, exceptionality, gender, language, religion, and socioeconomic status. Demographic issues along with urban and suburban educational settings will also be addressed.

**EDUC 5390. SELECTED TOPICS IN EDUCATION. 3 Hours.**

An examination of different topics related to education. This seminar may be repeated for credit as the topic changes.

**EDUC 5391. INDEPENDENT RESEARCH. 3 Hours.**

Research for thesis substitute or equivalent over a topic agreed upon between the student and instructor. May be repeated for credit with permission.

**EDUC 5394. UNDERSTANDING AND DESIGNING CLASSROOM RESEARCH. 3 Hours.**

In this introductory course, students learn about different types of educational research methods and study designs that can be applied to real-world settings. Furthermore, students learn about how to write measurable research questions, ethically collect data, and be introduced to qualitative, quantitative, and mixed methods study designs. At the conclusion of this course, students should be able to understand the basics of educational research to determine whether it would be appropriate for implementation in a real-world authentic setting. This course is to be taken after at least 3 hours of graduate course work and preceding EDUC 5397 or EDUC 5368.

**EDUC 5395. DESIGNING CLASSROOM RESEARCH. 3 Hours.**

In this course, students will develop their own classroom educational research project. Their designed study will be based in the literature in their educational field and focus on classroom research questions and problems that will inform teaching practices. In this course, students will develop an individual research problem statement, argue the significance of the problem, complete a written literature review and logical chain of reasoning related to the stated problem, write specific research questions to investigate the problem in educational settings, and design a research study (methodology) that will effectively investigate their research questions. Students design a research study that shows promise for improving education, written as the first three chapters of a scholarly classroom action research project. Prerequisite: EDUC 5394. For M.Ed.T. students, this course is to be taken in the final semester of the masters' degree program. For M.Ed. students, this course is to be taken in the semester just prior to the final semester of the masters' degree program, and in the semester immediately preceding EDUC 5397.

**EDUC 5396. EEG Laboratory and Experimental Design. 3 Hours.**

This course is an introduction to EEG technique, covering experimental design, recording, analysis, and interpretation of brainwaves.

**EDUC 5397. IMPLEMENTING AND DISSEMINATING CLASSROOM RESEARCH. 3 Hours.**

In this advanced course, students will build on the knowledge gained in EDUC 5394/EDUC 5367 to specifically focus on how to collect, analyze, and interpret different types of data grounded in a variety of educational research methods. This course is split into three sections focusing on quantitative data analyses/interpretations (e.g., correlations, t-tests, and regressions), qualitative data analyses/interpretations (e.g., thematic analysis, content analysis, and summative analysis), and mixed methods analyses/interpretations. At the conclusion of this course, students should be able to collect, analyze, and interpret different types of data commonly used in educational classrooms to make data driven decisions. Prerequisite: EDUC 5394 or EDUC 5367.

**EDUC 5600. COUNSELING STUDENTS IN SCHOOLS. 6 Hours.**

The focus of this capstone course will be individual and group counseling theories and techniques for pre k-12 students in an educational setting. Special techniques are included for substance abuse, and for using group play therapy. Knowledge of Diagnostic and Statistical Manual of Mental Disorders, 4th. Edition (DSM IV) will be covered for purposes of diagnosis and for outside referral when necessary. Three hours in a supervised counseling practicum in area schools or with school children will be required.

**COURSES****ELED 4311. TEACHING MATHEMATICS IN EARLY AND ELEMENTARY EDUCATION. 3 Hours.**

Principles of integration of mathematics concepts in relation to cognitive development. Emphasis on developing dispositions promoting scientific investigation and appropriate objects, materials, activities and programs to assist in assimilation of mathematics concepts. Course will also address the instructional needs and appropriate assessment of all students in inclusive, multicultural and multilingual classrooms for this content area; 20 hours field-based experiences required. Prerequisite: ELED 4312, ELED 4314. Taken concurrently with BEEP 4385.

**ELED 4312. TEACHING SCIENCE AND HEALTH IN EARLY AND ELEMENTARY EDUCATION. 3 Hours.**

Principles of integration of science and health concepts in relation to cognitive, socio-emotional, and psychomotor development. Emphasis on developing dispositions promoting scientific investigation and appropriate objects, materials, activities and programs to assist in assimilation of science and health concepts. Course will also address the instructional needs and appropriate assessment of all students in inclusive, multicultural and multilingual classrooms for this content area; 20 hours field-based experiences required. Prerequisite: Taken concurrently with ELED 4314.

**ELED 4314. TEACHING SOCIAL STUDIES AND FINE ARTS IN EARLY AND ELEMENTARY EDUCATION. 3 Hours.**

Examination of materials, methods, content, and assessment learning experiences associated with elementary social studies and fine arts. Content areas include history, geography, economics, government, citizenship, culture, science, technology and society. Opportunities to demonstrate applications in field settings. Course will also address the instructional needs and appropriate assessment of all students in inclusive, multicultural, and multilingual classrooms for this content area; 20 hours field experiences required. Prerequisites: Taken concurrently with ELED 4312.

**ELED 4317. GROWTH, DEVELOPMENT, AND LEARNING THEORY. 3 Hours.**

Examination of the relationship between major theories and principles of cognitive, socio-emotional, and psychomotor development and EC-6 student learning, home-school connections, and behavior in the classroom. Emphasis on environmental and cultural influences on children's development and learning, prenatal through age 12. Prerequisite: ELED 4311, ELED 4312, ELED 4314.

**ELED 4321. CLASSROOM MANAGEMENT, PEDAGOGY, AND PRACTICES IN EC-6 EDUCATION. 3 Hours.**

A study of developmentally appropriate curriculum and methods for elementary classrooms, including diversity, assessment, behavior guidance and management, planning instruction, and creating a positive learning environment. Course will also address instructional needs and appropriate assessment of all students in inclusive, multicultural, and multilingual classrooms. Field observations required. Prerequisites: EDUC 4316, ELED 4317.

**ELED 4687. CLINICAL TEACHING IN EARLY AND ELEMENTARY EDUCATION. 6 Hours.**

Full-day, Monday - Friday, supervised and directed clinical teaching in university-approved EC-6 classrooms. Candidates will have two placements: one in PK-2 and one in grade 3-6. Clinical teaching must immediately follow the field-based experiences semester. Candidates will follow the school district's calendar, and report to the classroom all day and each day of the semester. Prerequisites: ELED 4311, ELED 4312, ELED 4314, ELED 4317, BEEP 4306, BEEP 4384; LIST 4373, LIST 4374, LIST 4376, EDUC 3301, EDUC 4318, EDUC 4319.

**ELED 5309. TRENDS AND ISSUES IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION. 3 Hours.**

In-depth analysis of current research and practical articles on trends and issues in early childhood and elementary education. Emphasis on the evaluation and impact of historical, political, and social policy; overview of legislation and advocacy on behalf of young children.

**ELED 5312. EC6: INSTRUCTIONAL STRATEGIES IN SCIENCE. 3 Hours.**

Study of principles of integration of content in EC-6 classrooms with focus on science concepts and cognitive development. Emphasis on developing dispositions toward scientific inquiry and the use of appropriate objects, materials, activities, and programs to assist in the learning of science concepts.

**ELED 5315. CLINICAL TEACHING. 3 Hours.**

Clinical teaching in candidate's certification area(s). This semester-long experience will help candidates apply theory and research to practice.

**ELED 5317. THEORIES OF CHILD DEVELOPMENT AND LEARNING. 3 Hours.**

Human growth and development, including developmental anomalies, from birth through middle childhood with emphasis on cognitive, social, emotional, and physical growth. Attention is given to current research regarding establishment of learning environments that foster development of the child's self-concept, cognitive competencies, oral language and literacy development, and positive social behaviors including appreciation of diversity among individuals and groups.

**ELED 5318. FOUNDATIONS IN EC6 EDUCATION. 3 Hours.**

An overview of historical and philosophical influences and current research in early and elementary education on promoting educational environments that support development of the whole child. Attention is given to the development and implementation of appropriate EC-6 curricula and programs that extend and integrate learning experiences of children, including the home-school relationship; 20 hours field experiences required.

**ELED 5319. EC6 EDUCATION: INSTRUCTIONAL STRATEGIES IN MATHEMATICS. 3 Hours.**

Study of principles of integration of content in EC-6 classrooms with focus on mathematics concepts and cognitive development. Emphasis on developing dispositions toward the use of appropriate objects, materials, activities, and programs to assist in learning of mathematics concepts.

**ELED 5320. EC6 EDUCATION: INSTRUCTIONAL STRATEGIES IN SOCIAL STUDIES AND THE CREATIVE ARTS. 3 Hours.**

Study of principles of integration of content in EC-6 classrooms with focus on social studies, the creative arts, and cognitive and socio-emotional development. Emphasis on developing dispositions promoting awareness of self and others, and the study of group dynamics involved in the socialization process in a diverse community. Strategies for enhancing creativity and risk-taking characteristics in EC-6 classrooms.

**ELED 5321. EC-6: CLASSROOM MANAGEMENT & INSTRUCTIONAL STRATEGIES. 3 Hours.**

This course explores a variety of effective classroom management and instructional strategies which include developmentally appropriate, research-based, and anti-biased curricular and materials to teach the core content subjects of English language arts, mathematics, science, and social studies in ESL elementary classrooms. This course also examines challenges to inquiry-based instruction, including those related to assessment, behavior guidance and management, planning instruction, and diversity; 20 hours of field observations are required.

**ELED 5390. SELECTED TOPICS IN ELEMENTARY EDUCATION. 3 Hours.**

An examination of different topics related to elementary education. This course may be repeated for credit with permission.

**ELED 5391. INDEPENDENT RESEARCH. 3 Hours.**

Research over a topic agreed upon between the student and instructor. May be repeated for credit with permission.

**COURSES****LISTIR 5391. INDEPENDENT RESEARCH IN READING. 3 Hours.**

Individual or small group research project on a literacy-related topic agreed upon between student(s) and instructor. May be repeated for credit with permission.

**COURSES****LIST 4326. SECONDARY READING. 3 Hours.**

This course focuses on the scope of reading instruction in the secondary schools and the processes and skills for reading. Students explore programs, trends, and issues related to secondary reading instruction along with comprehension and word study instruction, the integration of reading with writing and oral communication, selection of print materials competency, and an examination of visual literacy and the media.

**LIST 4343. CONTENT AREA READING AND WRITING. 3 Hours.**

Explores methods of teaching reading, writing, and study skills across the curriculum. Emphasis on text structure and the differences between narrative and expository text, graphic organizers, and the reading/writing process as applied to informational text. Classroom adaptations for culturally and linguistically diverse populations in the content areas are also addressed.

**LIST 4373. LITERACY LEARNING FOR EC-6 STUDENTS: READING AND WRITING. 3 Hours.**

Comprehensive literacy approach to teaching with an emphasis on guided reading and writing. Theoretical models, principles of teaching reading and writing using a variety of instructional strategies, the role of foundational literacy learning, effective program organization, assessment, and classroom management.

**LIST 4374. LITERACY LEARNING FOR EC-6 STUDENTS: LITERATURE AND LANGUAGE. 3 Hours.**

Comprehensive approach to literacy instruction. Emphasis on using genres of children's literature to promote language and literacy development. Instructional models and techniques for using children's literature across the curriculum. Use of appropriate media and non-print materials, selection and evaluation of literature, and strategies for stimulating and expanding children's response to literature.

**LIST 4376. ASSESSMENT IN LITERACY LEARNING. 3 Hours.**

Examines a variety of formal and informal literacy assessment tools and techniques. Also focuses on diagnostic procedures for identifying literacy learning strengths and needs. Students will apply reading and writing assessment and instructional strategies with children.

**LIST 4378. TEACHING READING, WRITING, AND LITERATURE IN THE MIDDLE LEVEL GRADES. 3 Hours.**

Theory and practice in the teaching of literacy for the middle level grades, including various instructional approaches to reading, writing, listening, and speaking; motivating student readers and writers, vocabulary and comprehension, strategies for various writing modes, purposes, and audiences; and the basic components of assessment. Integration of literature suitable for the middle level; selection and evaluation of appropriate fiction, nonfiction, and poetry for instruction, as well as literature-based instructional methods. This course includes an embedded field experience component, which requires students to work with middle grades learners during normal school hours.

**LIST 4390. SELECTED TOPICS IN LITERACY. 3 Hours.**

An examination of different topics related to literacy. This seminar may be repeated for credit as the topic changes.

**LIST 4391. CONFERENCE COURSE. 3 Hours.**

Independent study in the preparation of a project in a paper on a research topic; consultation with instructor on a regular basis. May be repeated for credit. Prerequisite: Consent of instructor.

**LIST 5315. LITERACY THEORY TO PRACTICE. 3 Hours.**

Designed as an introduction to comprehensive literacy education. Provides students the opportunity to explore theory, research, and knowledge in the field of literacy, including teaching diverse learners and students for whom English is an additional language.

**LIST 5316. LITERACY THEORY TO PRACTICE - PRACTICUM I. 3 Hours.**

Designed as an introduction to comprehensive literacy education. Provides students the opportunity to explore the theory, research, and knowledge in the field of literacy, including teaching diverse learners and students for whom English is an additional language, with application through field experiences in schools and classrooms. This course should be taken in the first full semester in the MEd in Curriculum and Instruction with Literacy Studies Emphasis student's program. It must be completed before enrolling in LIST 5361 and LIST 5317.

**LIST 5317. LITERACY LEADERSHIP AND COACHING: PRACTICUM III. 3 Hours.**

This practicum is the capstone experience for students in the M.Ed. with Literacy Studies Emphasis. The course provides an opportunity to synthesize the theory and research related to literacy that has been presented in the program, to explore literacy program development and the implementation of technology in literacy programs, and to participate in professional leadership. Prerequisite: LIST 5316, LIST 5361, and at least 4 additional program courses.

**LIST 5325. UNDERSTANDING LITERACY RESEARCH. 3 Hours.**

Designed as an introduction and exploration of literacy research. Provides the opportunity to read broadly in the area of literacy research to become aware of current trends and methodologies. Emphasizes the tools for critically consuming literacy research and utilizing existing research in personal examinations of literacy topics and questions.

**LIST 5326. PRE-ADOLESCENT & ADOLESCENT LITERACY. 3 Hours.**

Focuses on literacy theory, research, and practice as it relates to pre-adolescents and adolescents. Addresses sociocultural, cognitive, linguistic, psychological, and developmental influences on literacy. Explores the development of curricular designs for teaching reading/language arts in middle and secondary schools including reading, writing, oral communication, literature, and digital literacy.

**LIST 5345. CONTENT AREA READING AND WRITING. 3 Hours.**

Explores methods of teaching reading, writing, and study skills across the curriculum. Emphasis on text structure and the difference between narrative and expository text, graphic organizers, and the reading/writing process as applied to informational text. Classroom adaptations for culturally and linguistically diverse populations in the content areas also will be addressed.

**LIST 5346. TEACHING THE WRITING PROCESS. 3 Hours.**

Current research and theory on the writing process, how children develop as writers, the teacher's role, the learning environment, and motivation, assessment, and evaluation in writing. Current approaches to digital writing and multimodal writing will be explored.

**LIST 5350. LITERACY ASSESSMENT. 3 Hours.**

Formal and informal assessment of student literacy learning, and diagnosis of student literacy learning strengths and needs.

**LIST 5353. LITERATURE FOR CHILDREN AND YOUNG ADULTS. 3 Hours.**

Selection, evaluation, and use of current literature published for children and young adults.

**LIST 5354. MULTICULTURAL LITERATURE FOR CHILDREN AND YOUNG ADULTS. 3 Hours.**

Study of literature for children and young adults which reflects the experiences representing cultural, ethnic, geographic, linguistic, gender, ability, and other dimensions of diversity. Consideration of selection guidelines, evaluation of literary quality as well as cultural authenticity and teaching applications, including adaptations for culturally and linguistically diverse populations.

**LIST 5361. DIVERSITY, EQUITY, AND INCLUSION IN LANGUAGE AND LITERACY LEARNING-PRACTICUM II. 3 Hours.**

This practicum-based course bridges theory to practice, addressing how to support student diversity through culturally relevant and equitable teaching frameworks. The course will introduce strategies to support multilingual students and students experiencing reading difficulties. Provides opportunities to apply effective, equity-based instructional practices to classroom practice. Prerequisite: LIST 5316.

**LIST 5362. LITERACY INSTRUCTION IN ESL/BILINGUAL SETTINGS. 3 Hours.**

This course bridges theory to practice, stressing how the relationship between first and additional language acquisition and development can inform teaching ESL/bilingual students. Provides opportunities to apply effective instructional practices in teaching students to foster development in speaking, listening, reading, and writing within a framework of cultural understanding.

**LIST 5373. FOUNDATIONS OF LITERACY LEARNING IN EC-6 CLASSROOMS. 3 Hours.**

Comprehensive approach to literacy instruction in EC-6 classrooms with an emphasis on reading and writing including the critical areas of phonics, phonemic awareness, word study, vocabulary, fluency, comprehension, and writing. In addition, the course examines various theoretical models of literacy along with the principles of teaching reading and writing using a variety of instructional strategies, effective program organization, assessment, and classroom management.

**LIST 5381. NATIONAL WRITING PROJECT PART I. 3 Hours.**

An intensive institute in which teachers learn ways to improve student writing abilities by improving their own teaching and learning of writing. Students participate in an intensive literature review related to the area of writing instruction. Prerequisite: Students must apply and be invited to participate in this course. Concurrent enrollment in LIST 5382.

**LIST 5382. NATIONAL WRITING PROJECT PART II. 3 Hours.**

An intensive institute in which teachers learn ways to improve student writing abilities by improving their own teaching and learning of writing. For this part of the workshop, students build on their literature review by writing a research proposal and developing research-based writing instruction. In addition, professional development training for classroom teachers is provided. Prerequisite: Students must apply and be invited to participate in this course. Concurrent enrollment in LIST 5381.

**LIST 5383. WRITING FOR PROFESSIONAL PUBLICATION. 3 Hours.**

This course focuses instructor and peer interaction as students conduct literacy-related research, analyze data, write up the results, and disseminate their completed study to a professional journal. A comprehensive study of professional journals and their requirements for submission is included in this course. Prerequisite: LIST 5385 or program advisor approval.

**LIST 5384. ADVANCED PEDAGOGY OF WRITING. 3 Hours.**

This course focuses on strategies for teaching prewriting, drafting, revising, editing, and publishing through writing workshop, literature focus units, and thematic units as well as through the content areas. Both writing assessment with rubrics and evaluation with portfolios are studied. Students compose both expository and expressive pieces as well as design and micro teach mini lessons and a web-based integrated writing unit. Prerequisite: LIST 5346, or LIST 5381, and LIST 5382, or program advisor approval.

**LIST 5385. DESIGNING LITERACY RESEARCH. 3 Hours.**

This course is designed to build on the LIST 5325, Understanding Literacy Research, by providing an exploration of the process for quantitative, mixed methods or qualitative research design. Includes an examination of various research designs related to language and literacy development including models such as case studies, ethnography, observations and interviews. Students are lead through the research process including forming a theoretical epistemology, formulating research questions, reviewing literature, selecting methods of data collection, interpretation and analysis of data and writing a research proposal. Students will be expected to complete this research focus in the program capstone experience, LIST 5317. Prerequisite: LIST 5325.

**LIST 5390. SELECTED TOPICS IN READING. 3 Hours.**

An examination of different topics each semester, with a focus on subjects related to reading, writing, oral language, and literacy.

**LIST 5391. INDEPENDENT RESEARCH IN READING. 3 Hours.**

Individual or small group research project on a literacy-related topic agreed upon between student(s) and instructor. May be repeated for credit with permission.

**COURSES****MAED 5351. WHOLE NUMBERS, RATIONAL NUMBERS, & OPERATIONS. 3 Hours.**

In this course students engage in activities and problem solving on concepts related to whole numbers, rational numbers and operations. Students in the course will learn to utilize research-based, problem-based teaching methods to promote K-12 student understanding. Students will experience how K-12 students learn these concepts as they themselves engage in computation and problem solving activities transferrable to classroom practice. In this course, students will engage in experiences to learn and teach their K-12 students on using numbers, number systems and their structure, operations and algorithms, quantitative reasoning, and technology.

**MAED 5352. PATTERNS & ALGEBRA. 3 Hours.**

This course engages students in problem-based teaching and curriculum development to help children learn problem solving and critical thinking with an emphasis on patterns, relations, functions, algebraic reasoning, analysis, and technology. The course incorporates research shown effective in helping children develop necessary skills for algebraic reasoning as a foundation for higher level mathematics learning.

**MAED 5353. PROBABILITY & STATISTICS. 3 Hours.**

In this course students will engage in learning experiences and readily usable curricula for teaching K-12 students concepts of probability and statistics, their applications, and technology. Students will examine K-12 student learning and research-based practices that best help them understand these mathematical concepts and that will promote their development of probabilistic reasoning abilities.

**MAED 5354. PROBLEM SOLVING. 3 Hours.**

In this course, students experience and practice innovative curricula for teaching and learning problem solving. Students engage in hands-on activities and apply various problem solving techniques, using mathematical processes to reason mathematically, to solve mathematical problems, to make mathematical connections within and outside of mathematics, and to communicate mathematically. Students learn to identify relevant and irrelevant variables in problems and work through problems to arrive at meaningful solutions. Students examine research on ways to help K-12 students become effective problem solvers as transferrable to other mathematics topics and subjects across the curriculum.

**MAED 5355. CONCEPTUAL GEOMETRY. 3 Hours.**

In this course students will experience and incorporate active learning curricula that utilize a variety of manipulative materials, diagrams, models, and pictures to study geometry and spatial reasoning. The students will learn effective, research-based practices for teaching geometry and examine ways to best help K-12 students build geometric and spatial understandings as a foundation for later, more complex abstract visualizations.

**MAED 5356. MEASUREMENT. 3 Hours.**

This course focuses on inquiry-based, problem-based curricula that help K-12 students learn concepts of measurement including units of measure, standardization, and error. Students will learn to use teaching techniques that will promote K-12 students' understanding as well as the application of measurement concepts to other subjects and to everyday life experiences.

## COURSES

### **SCED 5351. PHYSICAL SCIENCE - PROPERTIES AND CHANGES IN MATTER. 3 Hours.**

This course provides an in depth study of the properties and changes in matter and how to teach these concepts to students in grades K-12 science. Students study matter by engaging in inquiry and field/laboratory investigations using scientific processes, critical thinking, and problem solving. The course will help students learn to teach these physical science concepts to K-12 students using inquiry models.

### **SCED 5352. PHYSICAL SCIENCE - FORCE & ENERGY. 3 Hours.**

In this course, students gain scientific knowledge about characteristics and interactions among matter, force, and energy with interdisciplinary and everyday life connections. Topics experienced through laboratory/field based investigations include: gravity, work, friction, acceleration, volume, length, distance, light, forms of energy, electricity, heat, and simple machines. The course will help students learn to teach these physical science concepts to K-12 students using inquiry models.

### **SCED 5353. EARTH SCIENCE - STRUCTURES, MOVEMENT, & CHANGES IN EARTH & SPACE. 3 Hours.**

Through laboratory investigations, students gain knowledge of the various constructive and destructive forces that shape and alter the Earth's surfaces such as plate tectonics, volcanoes, earthquakes, erosion, weathering and deposition, as well as conservation of resources. The course will include studies of rock identification, and the rock cycle, as well as geologic time and the fossil record. The course includes study of earth, moon and planetary characteristics and motions. The course will enable students to teach these earth science concepts to K-12 students using inquiry models.

### **SCED 5354. EARTH SCIENCE - WATER PROPERTIES, DISTRIBUTION, THE WATER CYCLE, & WEATHER. 3 Hours.**

Students gain understanding of the importance of water including the topics of cohesion, adhesion, surface tension, and capillary action. Water distribution on Earth is analyzed using maps and charts, with connections to geographic and climatic characteristics of the various regions. Water, as a major factor in weather, along with other meteorological variables such as air pressure, humidity, dew point, and cloud formation will be studied and weather patterns will be tracked over time using technology and maps. The course will provide students with the knowledge and skills required to teach these earth science concepts to K-12 students using inquiry models.

### **SCED 5355. LIFE SCIENCE - UNITY & DIVERSITY OF LIFE & LIFE PROCESSES. 3 Hours.**

This course will explore living organisms and classification of organisms. The course will focus on the unity of life including the cell and cell components and the life functions, as well as the diversity of life including a look at pathogenic agents including bacteria and viruses. The course will analyze the structure and function of DNA and genetics. The course will include comparative anatomy and physiology studies of organisms. Students will learn how to teach these life science concepts to K-12 students using inquiry models.

### **SCED 5356. LIFE SCIENCE - CYCLES IN NATURE, ADAPTATIONS, AND ENVIRONMENTAL SCIENCE. 3 Hours.**

This course analyzes life, biochemical, and geochemical cycles within the natural world and how they impact ecological systems and environment. Students conduct laboratory and field investigations to examine and recognize various plant and animal adaptations. Science topics include camouflage, mimicry, body coverings, mouthparts, habitats. Math-science integrations include estimations, relationships, graphing, and number sense. Inquiry models will be used to help students learn to teach these life science concepts to K-12 students.