

MIDDLE-LEVEL SCIENCE/ MATH EDUCATION(4-8) CERTIFICATION

Program Description

In our Middle Level (4-8) Education program, you'll delve into a comprehensive curriculum designed to equip you with the knowledge and skills necessary to effectively teach and support students in grades 4 through 8. You'll explore key concepts in child and adolescent development, curriculum design, instructional strategies, and assessment techniques tailored to the unique needs of this age group. Through hands-on experiences and practical applications, you'll learn to create engaging learning environments that foster academic success, social-emotional development, and positive relationships with students. Our program emphasizes collaboration, cultural responsiveness, and the promotion of equity and inclusion in education. Upon completion, you'll emerge as a confident and competent educator prepared to make a meaningful impact on the lives of middle-level students.

Requirements for program completion

45 Credits

Core Courses

- EDC 503 Cognitive, Social, and Emotional Development
- EDC 510 Human Diversity
- EDC 604 Foundations of Schooling
- EDC 613 The Role of the Developmentally Oriented Teacher
- EDC 751 Transformative Pedagogy: A Capstone Experience

Certification Courses

- EDC 512 Introduction to the Middle School
- BLS 601 Techniques of Teaching English to Speakers of Other Languages
- EDC 617 Reading in the Content Areas
- EDC 641 Teaching Science as Integrated Inquiry
- EDC 642 Development of Mathematical Thought
- EDC 643 Developing and Adjusting Instruction
- EDC 645 Planning and Instruction for Students with Special Needs
- EDC 661 Teaching All Students in Inclusive and Special Education Settings

Professional Semester

- EDC 662 Elementary and Special Education Student Teaching (candidates with no teaching experience)

OR

- EDC 669 Elementary and Special Education Supervised Teaching/ Transitional Teaching/Early Elementary and Special Education Supervised Teaching (candidates with two or more years of teaching experience and currently employed as teachers or teaching assistants and with approval of the Candidacy Committee)
- EDC 679 Special Methods of Teaching (seminar that accompanies student teaching)

Course	Title	Credits
First Year		
First Semester		
EDC 503	Cognitive, Social, and Emotional Development	3
EDC 510	Human Exceptionalities	3
Credits		6
Second Semester		
EDC 512	Introduction to the Middle School	3
EDC 617	Reading in the Content Areas for Secondary Educators	3
Credits		6
Third Semester		
EDC 643	Developing and Adjusting Instruction	3
EDC 645	Planning and Instruction for Students with Special Needs	3
EDC 661	Teaching All Students in Inclusive and Special Education Settings	3
Credits		9
Second Year		
First Semester		
EDC 641	Teaching Science as Integrated Inquiry	3
EDC 642	Development of Mathematical Thought	3
BLS 601	Techniques of Teaching English to Speakers of Other Languages	3
Credits		9
Second Semester		
EDC 613 or EDC 669	The Role of the Developmentally Oriented Teacher or Elementary and Special Education Supervised Teaching/Transitional Teaching	3
EDC 662	Elementary and Special Education Student Teaching	3
EDC 679	Elementary and Special Education Special Methods of Teaching	3
Credits		9
Total Credits		39

Course Sequence

Eight-Week Sessions

EDC 503 Cognitive, Social, and Emotional Development
This course provides an overview of the physical, cognitive, psychosocial, emotional, and moral development for humans across the lifespan. Participants will explore theories of learning and development as they pertain to the individual in the home, in schools, the community, at work, individually, with families and with peers. Attention will be paid to both normative and nonnormative developmental trends.

EDC 510 Human Exceptionalities
This course introduces human exceptionalities and surveys the psychological, medical, legal, and social forces influencing the provision of services for exceptional people. Clarifies perceptions of exceptionalities, defines and describes key terms and concepts, and identifies major trends that affect the scope and nature of service to exceptional people.

EDC 613 The Role of the Developmentally Oriented Teacher
This course enables students to more expertly apply child and adolescent developmental concepts to the practice of teaching. Explores strategic instructional planning, teaching styles, presentation skills, cooperative learning, and classroom management systems. Emphasizes the role of the teacher as an educational leader and decision-maker. Uses video-assisted micro-teaches both in the laboratory and the classroom.
Prerequisite(s): EDC 503

EDC 512 Introduction to the Middle School

This course is designed to provide students with an overview of the historical, social, and cultural influences in the development of the middle school concept. It investigates organizational structure, alternative patterns of school and class organization, team planning, and collaboration techniques. This course focuses exclusively on middle-level philosophy, transition, learning, and management so that teacher candidates seeking certification in grades 4-8 will have a deeper understanding of adolescent issues requiring specific educational approaches.

BLS 601 Techniques of Teaching English to Speakers of Other Languages

The course analyzes various methodologies used in teaching English as a second language. Emphasis is placed upon methods in teaching, listening, and speaking. Microteaching of difficult points of pronunciation and grammar is also emphasized. Significant attention is given to effective techniques in second-language acquisition.

EDC 617 Reading in the Content Areas for Secondary Educators

This course provides students with the opportunity to understand reading as a strategic interactive process that affects the learner's efforts in all academic areas. Students will explore currently held views of the reading process, instruction techniques, and assessment concerns related to secondary education. Class sessions employ a variety of formats, including lecture, demonstration, discussion, and hands-on experiences. Course projects provide practical application of the theoretical, instructional, and diagnostic issues presented. Required of all certification candidates. Prerequisite(s): EDC 503

EDC 641 Teaching Science as Integrated Inquiry

This course focuses on how to develop student understanding of scientific knowledge and nature of scientific inquiry through inquiry-centered approaches that are in harmony with the contemporary research on cognitive science, motivation, and learning and instruction. It also addresses science education standards, issues, research, and application. Throughout the semester, students are provided with many opportunities to engage in personal and collaborative inquiry about teaching and learning science. Prerequisite(s): EDC 503

EDC 642 Development of Mathematical Thought

Assists students in understanding how children develop quantitative reasoning and examines implications for teaching math concepts, skills, and problem-solving approaches across content areas. Provides a basis for understanding the changing mathematics curriculum and offers opportunities to plan and evaluate instructional techniques. Required of all Elementary and Special Education Certification candidates. Prerequisite(s): EDC 503

EDC 643 Developing and Adjusting Instruction

This course is designed to help elementary and special education teachers use a developmental perspective in order to design instruction that maximizes learning for a diverse groups of pupils. Further, this course will provide the knowledge necessary for teachers to adjust instruction to accommodate the wide variety of needs commonly found among children with and without disabilities and other needs in current elementary and special education classrooms. Education 643 provides the background necessary for understanding developmental levels, learning styles, and research-based instructional strategies that connect to unit development. Education 645 and 661 represents a summer practicum experience necessary to implement instruction in inclusive and non-inclusive educational settings. Prerequisite(s): EDC 503, EDC 510

EDC 645 Planning and Instruction for Students with Special Needs

This course will extend graduate students' understanding of Individualized Education Plan (IEP) planning, including the Individual Transition Plan, and how to collaborate with parents and outside agencies. Included will be IEP interpretation and accommodations for students classified as low incidence students, including autism. In addition, students will learn how to adjust standards-based units of instruction to meet the needs of students with moderate to severe disabilities. Addressed will be the following: functional and basic academics, communication, daily living skills, socialization, community experiences and related services. Prerequisite(s): EDC 643

EDC 661 Teaching All Students in Inclusive and Special Education Settings

An extension of EDC 645 in which participants design and deliver instruction to moderately and severely handicapped learners. Emphasizes the classroom application of research-based knowledge of child development and individual differences. Prerequisite(s): EDC 643 and EDC 645 or EDC 647

EDC 662 Elementary and Special Education Student Teaching

Required of all Elementary and Special Education Certification candidates with no teaching experience. Prerequisite(s): Must be taken as final course in certification sequence.

EDC 669 Elementary and Special Education Supervised Teaching/ Transitional Teaching

This course can, with permission of the Candidacy Committee, replace student teaching for candidates with one or more years teaching experience who are also currently employed as teachers. For one semester, the supervised teacher is observed and guided by University faculty while teaching in his/her own current private or public school position. The supervised teacher also conducts an action research project. Required of all certification candidates who are not required to take student teaching. Prerequisite(s): Must be taken as final course in certification sequence.

EDC 679 Elementary and Special Education Special Methods of Teaching

Weekly seminars held either on campus or at the practicum site designed to help students translate theory into practice by exploring teaching methods in the chosen area of certification. Research project required. Required of all certification candidates. Prerequisite(s): Must be taken as final course in certification sequence.

Course Descriptions

Education