

M.Ed. in Curriculum and Instruction Core Curriculum Courses

EDCI 602: Cultural Foundations of Education

Contributions of behavioral sciences applied as analytic tools in solving problems of curriculum and instruction.

EDCI 644: Curriculum Development

Curriculum development; bases of curriculum design; problems of balance, scope, organization, sequence, selection and articulation.

EDCI 673: Analysis of Teaching Behavior

Identification of beliefs and assumptions regarding teaching; review of research on teacher effectiveness; alternative methods for gathering data regarding dimensions of teaching behavior; development of teacher analysis systems.

EDCI 636: Educator as Researcher

Develops action research skills to enable them to critically analyze insights into the historical, philosophical and social foundations of reflective teaching and leadership in educational environments. Includes an analysis of theories, methodologies, implications and actions related to educational action research.

Graduate Program Area of Study STEM Education

EDCI 609: Analysis and Reporting for Records of Study

Analysis of field-generated and existing data, classroom observations, empirical tests, and discussions; links theoretical and practical educational theory to analyses of qualitative and quantitative data; teacher-leaders interpretation of classroom phenomena using research-based theories for teaching and learning.

EDCI 620: Science, Technology, Engineering and Mathematics (STEM) Teaching and Learning

Examination of integrated and multidisciplinary practice-based pedagogies; building of interdisciplinary bridges among content areas; melding sociocultural and cognitive factors influencing STEM education across K-12 levels; discussion of underrepresented groups binding best practices; development and evaluation of STEM project-based learning.

EDCI 627: Teaching and Learning Data Analysis and Uncertainty Concepts

Examination of the content, pedagogy, technology and research on teaching and student learning of concepts and skills in probability, statistics and discrete mathematics; discussion of contemporary issues and K-12 curriculum, standards and assessment.

EDCI 720: Engineering Design for School Teaching and Learning

Understanding engineering design, the development of an engineering design conceptual framework and the K-12 curricula that are available to address STEM teaching and learning; equips teacher-leaders with the resources to interpret classroom phenomena with a multifaceted perspective using research-based evidence.

Graduate Program Area of Study STEM Education

EDCI 721: How People Learn STEM

Foundational guide for the design and orchestration of contemporary integrated STEM learning environments; grounded in research findings and new theories about educational practices and outcomes.

EDCI 722: Microcontrollers for Educators*

This course is focused around learning about electricity, electronics, and programming in the context of integrating microcontrollers into the classroom.

EDCI 723: Developing Students' Disciplinary Language and Reading in STEM Teaching and Learning

Examination, analyses and application of the role that STEM disciplinary language and reading play in STEM instruction at the middle and high school levels; evolution of STEM disciplinary language and literacies; STEM vocabulary, STEM fluency, factors influencing STEM comprehension, STEM language structure, writing to integrate, evaluate and assimilate STEM knowledge.

EDCI 724: Science/Mathematics in Engineering-Physics Based*

Explore the integrated approach for teaching science and mathematics concepts using engineering design principles and technology in K-12 levels; learn to deliver contextualized and integrated STEM instruction that promotes student engagement, motivation, and interest.

EDCI 726: History and Trends in STEM Education

Exploration of concepts and application of STEM in society; development of understanding of role of engineers, scientists and mathematicians in society; learning basic coding; application of principles to instructional settings.

*Currently being developed/undergoing approval process