

## Graduate Program Area

### Science Education

Courses marked with an asterisk (\*) are new courses, and will be listed as EDCI 689 until the approval process for these courses is complete.

#### **EDCI 656: How People Learn Science**

Synthesis of the scientific basis for learning science, with emphasis on memory and structure of knowledge, problem-solving and reasoning, early foundations of learning, regulatory processes and how symbolic thinking emerges from the culture and community of the learner.

#### **EDCI 689: Exemplary Technology for Science Education\***

Emphasis is placed on identifying the common design principles of all exemplary technologies, investigation of current instruments for identifying exemplary technologies and the design of novel exemplary technologies.

#### **EDCI 660: Research on the High School Science Teacher Professional Continuum**

Various models of high school teacher preparation and renewal are compared.

#### **EDCI 689: Broader Impacts of Scientific Collaboration\***

Explore the institutional contexts and social significance of broader impacts of scientific collaboration; design education and outreach projects and/or develop research studies for science education programs in collaborative, multidisciplinary outreach/research teams.

#### **EDCI 663: Scientific Inquiry in K–16 Classrooms**

Various models of science learning environments emphasizing inquiry.

#### **EDCI 664: Advanced Methods of Secondary Science Education**

Strategies for teaching secondary school science; design and evaluation of secondary school science instruction; recent developments in secondary school science teaching.

#### **EDCI 665: Science Curriculum**

Critical exploration of the trends and issues in school science programs; consideration of the foundations and strategies for the design, selection and evaluation of science curriculum.

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### **EDCI 667: Research and Foundations of Science Education**

Analysis of research in science education that relates the historical and philosophical basis of science and science teaching; emphasis on implications for improved instruction, especially on the nature of science.

### **EDCI 668: The History and Culture of Science Education—1900 to the Present**

An analysis of the evolution of science education as a discipline, a profession, a culture and a component to the education of K–16 students during the last 100 plus years in the U.S. and selected developed nations.

### **EDCI 669: Science Education in Sociological Context**

Explores science and its endeavors from a sociological perspective in order to make inferences on school science practice and science teaching.

For more information about the Graduate Program Area, Science Education, please visit our [website](#).