

M.Ed. – Curriculum & Instruction Emphasis in Science Education

The major in Curriculum and Instruction is designed to prepare master teachers and graduates with instructional leadership skills. It has three major objectives:

- to provide knowledge, skills, attitudes, and applicable research skills in curriculum and pedagogy;
- to develop master teachers to serve as teacher educators, mentors, clinical teaching faculty, and peer coaches;
- to provide experience in educational research related to effective educational practice in field-settings.

The major in Curriculum and Instruction is designed to serve the many educators who desire a program with an emphasis on instructional leadership and effective teaching. This major is responsive to the needs of the South Texas educational community and to state and national priorities for restructuring and delivering teacher education programs. A comprehensive examination is required. Students choosing the thesis option will take EDCI 7300 and 7301 in lieu of six hours of electives. For course descriptions and other information related to graduate studies visit our website at <http://utb.edu/vpaa/graduate>.

Admission Requirements

Evidence of academic achievement and potential for advanced study and research is required for graduate admission. Specific criteria for Unconditional Admission for Master's degree seeking students in Curriculum and Instruction are:

- Undergraduate GPA of 3.0
- GRE Verbal score of 450
- GRE Quantitative score of 450
- GRE Analytical score of 4.0

Applicants with an undergraduate GPA of at least 2.5 and/or GRE scores lower than those specified are also encouraged to apply.

Notification of decisions on graduate admission is made by the office of Graduate Studies based on the admission criteria and recommendation of the academic department. Information related to application procedures and deadlines is available at the Office of Graduate Studies.

Careers

- K-12 teacher
- ISD Curriculum Specialist
- Texas Education Association Staff
- ISD Staff Development
- Consulting and Training
- Regional Educational Service Center Staff



36-Hour Thesis/Non-thesis Program

Required Courses: 36 hours

The options are designed for science teachers who desire to improve their knowledge of pedagogy and content. The program is designed to emphasize instructional leadership and effective teaching in science and has been approved by some area school districts for additional stipends. For course descriptions and other information related to graduate studies visit our website at <http://utb.edu/vpaa/graduate>.

Elementary Option

Curriculum and Instruction Core (9 hrs)

EDCI 6300 Introduction to Research

EDCI 6304 Learning and Cognition

EDCI 6334 Curriculum Development

EDCI Prescribed Electives (6 hrs)

EDCI 6330 Curriculum in the Elementary School

EDCI 6302 Field Research Methodology

Science Education Core: (12 hrs)

EDCI 6342 Models and Methods in Science Education

EDCI 6344 Current Issues and Research in Science Education

EDCI 6346 Environmental Education Methods

EDCI 6348 Science Education Project

Science Content: 9 hours

May be chosen from approved graduate science courses. See Graduate Course Offerings in the College of Science, Mathematics and Technology.

Secondary Option

Curriculum and Instruction Core (9hrs)

EDCI 6300 Introduction to Research

EDCI 6304 Learning and Cognition

EDCI 6334 Curriculum Development

EDCI Prescribed Electives (6 hrs)

EDCI 6331 Curriculum in the Secondary School

EDCI 6302 Field Research Methodology

Science Education Core: (9 hrs)

EDCI 6342 Topics in Science Education

EDCI 6344 Current Issues and Research in Science Education

EDCI 6346 Environmental Education Methods

EDCI 6348 Science Education Project

Science Content: 12 hours

May be chosen from approved graduate science courses. See Graduate Course Offerings in the School of Science, Mathematics and Technology.



Advisor

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Course Descriptions

EDCI 6300 Introduction to Research

Introduction to research techniques; identification of problems, research designs and data gathering procedures. The planning and design of research proposals and projects are emphasized. The course must be completed or in progress before the student applies for the oral interview. Lec 3, Cr 3

EDCI 6302 Field-Research Methodology

This course is an introduction to field-based research methodologies with an emphasis on the teacher as a researcher and on reflective teaching and teaching as decision-making. This is a field-based course. Lec 3, Cr 3

EDCI 6304 Learning and Cognition

This critical course focuses on topics, theories, and models of cognitive research and their implications for instructional practice and curriculum restructuring and design. This is a field-based course. Lec 3, Cr 3

EDCI 6330 The Curriculum in the Elementary School

This course focuses on the theory and factors that shape the elementary school curriculum. The course will also examine the organization and content of curriculum subjects and the trends, issues and new developments in the field. Lec 3, Cr 3

EDCI 6334 Curriculum Development - Problems and Processes

This course examines approaches in developing, implementing, and evaluating elementary and secondary school curricula. Principles and practices in the use and production of curriculum frameworks, guides, textbooks and other curriculum materials will be included. Prerequisite: EDCI 6330, 6331 or equivalent. Lec 3, Cr 3

EDCI 6342 Topics in Science Education

Special topics in science education related to science pedagogy, inquiry models of science instruction, integration of content areas, coordinated-thematic science teaching, authentic assessment methods in science education, fostering science process skills and critical thinking skills, and laboratory methods. May require fieldwork. May be repeated for credit when the topics vary. Lec 3, Cr 3

EDCI 6344 Current Issues and Research in Science Education

This course will include selected studies of current issues and problems related to science instruction and curriculum development. Topics include multicultural science education, inclusive science education, gender and ethnic issues regarding science, the analysis of learning in the science classroom, using Internet and Tenet to teach science, and a review of recent research in science education and science education reform efforts. Lec 3, Cr 3

EDCI 6346 Environmental Education Methods

This course is an interdisciplinary course for integrating environmental education throughout the K-12 curriculum. It includes content and strategies for developing and implementing environmental education lessons and programs. Methods for teaching K-12 students about the environment using effective educational methodology are emphasized. Lec 3, Cr 3

EDCI 6348 Science Education Foundation

Supervised project in science education that will include design of an original project and the writing of a formal report in an acceptable publication format. This course is usually taken during the last semester of study and is taken only by Non-Thesis students. Lec 3, Cr 3

Secondary Option

EDCI 6300 Introduction to Research

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as decision-making. This is a field-based course. Lec 3, Cr 3

EDCI 6304 Learning and Cognition

This critical course focuses on topics, theories, and models of cognitive research and their implications for instructional practice and curriculum restructuring and design. This is a field-based course. Lec 3, Cr 3

EDCI 6331 The Curriculum in the Secondary School

This course examines the theory and the background of the curriculum in the senior high and middle schools in the U.S. It includes an examination of curriculum in the disciplines and curriculum organization and an analysis of trends, issues, and innovations in the field. Lec 3, Cr 3

EDCI 6334 Curriculum Development - Problems and Processes

This course examines approaches in developing, implementing, and evaluating elementary and secondary school curricula. Principles and practices in the use and production of curriculum frameworks, guides, textbooks and other curriculum materials will be included. Prerequisite: EDCI 6330, 6331 or equivalent. Lec 3, Cr 3

EDCI 6342 Models and Methods in Science Education

The course may cover multiple topics in science education related to science content and pedagogy, inquiry and didactic models of science instruction, interdisciplinary and intradisciplinary approaches, thematic science teaching, authentic assessment, science process skills and critical thinking skills, and laboratory methods. Lec .3, Cr. 3.

EDCI 6344 Current Issues and Research in Science Education

This course will include selected studies of current issues and problems related to science instruction and curriculum development. Topics include multicultural science education, inclusive science education, gender and ethnic issues regarding science, the analysis of learning in the science classroom, using Internet and Tenet to teach science, and a review of recent research in science education and science education reform efforts. Lec 3, Cr 3

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