

MATHEMATICS AND SCIENCE EDUC (MSED)

MSED 200

Analysis of Classrooms

This is an introductory course providing students background in learning theory, motivation theory, classroom management, aspects of effective teaching, critical classroom variables, and the school as a system. This course includes a two-hour weekly seminar along with a practicum experience of five hours per week in an area school.

Lecture: 2 Lab: 5 Credits: 3

Satisfies: Communications (C)

MSED 250

Middle and Secondary Curriculum/Foundations

This course focuses on history/sociology of education, rationales, and goals of current reform efforts, curriculum design, development, and curriculum analysis. This course is designed to develop the participant's understanding of mathematics and science curricula in middle and secondary schools. Studies will include the roles of goals, standards, and learning theories in the development and selection of instructional materials, assessments, and technology. The course includes consideration of issues of equity and student diversity on middle and secondary school curricula. The course will involve readings, reflections, curriculum development, and evaluation projects.

Lecture: 3 Lab: 0 Credits: 3

Satisfies: Communications (C)

MSED 300

Instructional Methods/Strategies I

Discussion/laboratory oriented course that focuses on instructional planning, implementation considerations of various teaching methods, and development of instructional activities. Students are also provided with opportunities to practice instructional skills in peer teaching lessons.

Prerequisite(s): (MSED 200 and MSED 250) or (MSED 500 and MSED 554) or (MSED 500 and MSED 555)

Lecture: 3 Lab: 0 Credits: 3

Satisfies: Communications (C)

MSED 320

Inquiry and Problem Solving in Mathematics and Science

This course provides students with opportunities for reflection on aspects of inquiry and problem solving and nature of science and mathematics. It provides background for student development of instructional materials focusing on inquiry/problem solving, nature of science/mathematics, and how to modify and differentiate instructional materials to include the participation of all students. Must have received a passing score on the ISBE Basic Skills Exam.

Prerequisite(s): (MSED 200 and MSED 250) or (MSED 500 and MSED 554) or (MSED 500 and MSED 555)

Lecture: 3 Lab: 0 Credits: 3

Satisfies: Communications (C)

MSED 350

Advanced Methods for Inclusive Instruction and Practicum

This course will help students develop an understanding of the roles community resources and informal settings can play in math/science achievement and the ability to create instructional materials that capitalize on the use of these resources to better design instructional materials and experiences to meet the diverse needs of their students. Students spend approximately five hours per week in an informal education venue (e.g., museum, aquarium, zoo) along with a weekly two-hour, on-campus course per week. Students will reflect on how their students can learn in informal settings, teaching to public student audiences and designing curricular materials. Assessments will include the development of a curriculum unit that includes formal and informal lessons.

Prerequisite(s): (MSED 200 and MSED 250 and MSED 300) or (MSED 300 and MSED 500 and MSED 554) or (MSED 300 and MSED 500 and MSED 555)

Lecture: 2 Lab: 5 Credits: 3

Satisfies: Communications (C)

MSED 400

Instructional Methods/Strategies II

Follow-up course to Instructional Methods/Strategies I with a strong focus in various advanced instructional models such as inductive, deductive, problem solving, and inquiry role development as well as cooperative learning and assessment. The course will emphasize the development, implementation, and assessment of differentiated instructional materials and plans that are consistent with current cognitive and social theories on student learning and personal development for all aspects of intellectual, social, and emotional development of all students regardless of cultural, social, and ethnic background. Students will have several opportunities to practice instructional models in peer teaching lessons.

Prerequisite(s): MSED 300 or Graduate standing

Lecture: 3 Lab: 0 Credits: 3

Satisfies: Communications (C)

MSED 450

Professional Internship

Capstone experience in which students assume continuous teaching responsibilities in at least three classes in an area school. Students will spend a full semester in the area school under the supervision of a classroom teacher and university supervisor. Students must have received a passing score of the ISBE Content Exam and faculty approval.

Prerequisite(s): MSED 300 and (MSED 320 or MSED 538) and (MSED 350 or MSED 540) and MSED 400

Lecture: 0 Lab: 40 Credits: 6

Satisfies: Communications (C)

MSED 480

Adolescent Psychology

This course is designed to develop the participants' understanding of adolescent psychology. The main foci throughout the course are the unique aspects of adolescents and how those aspects influence behavior, learning, and social interactions, especially with regard to middle schools. Studies will include educational psychology theories and models, motivation and learning, developmental changes during adolescence, cognitive abilities, human ecology, diversity, and cultures. Additionally, participants will examine historical and philosophical perspectives of adolescent psychology and synthesize how these perspectives have influenced teaching, learning, and cultures in middle schools. The course will involve weekly readings and reflections, classroom experiences, short assignments, tests/quizzes, research projects, and formal class presentations. Mandatory for students seeking middle school optional endorsements.

Lecture: 3 Lab: 0 Credits: 3

MSED 497

Special Projects

Special projects.

Credit: Variable