Math Education Courses

MTE 551 - Fundamental Mathematics for Teachers
Hours: 3
This course is designed to prepare the teachers to create learning environments conducive to meeting the national and state standards regarding teaching and learning problem solving through number and operations, algebraic reasoning, geometry, and other techniques.

MTE 552 - Mathematical Modeling for Teachers
Hours: 3
The National Council of Teachers of Mathematics (NCTM) explains in its Principles and Standards (2000) that all mathematical learning should be grounded in problem solving and mathematical reasoning. This course is designed to prepare the teachers to create learning environments conducive to meeting the national and state standards regarding problem solving, mathematical modeling, and the judicious use of technology.

MTE 553 - Geometric Structures for Teachers
Hours: 3
The National Council of Teachers of Mathematics (NCTM) explains in its Principles and Standards (2000) that “geometry and spatial sense are fundamental components of mathematics learning.” This course is designed to prepare the teachers to create learning environments conducive to meeting the national and state standards regarding geometry. Topics include characteristics of 2 and 3 dimensional shapes, mathematical proofs, spatial relationships, transformations and symmetry.

MTE 554 - Algebraic Structures for Teachers
Hours: 3
The National Council of Teachers of Mathematics (NCTM) explains in its Principles and Standards (2000) that algebraic reasoning is a important part of mathematical study. This course is designed to prepare the teachers to create learning environments conducive to meeting the national and state standards regarding algebraic reasoning. Topics include understanding patterns, relations, functions; representing and analyzing mathematical situations and structures using algebraic symbols; using mathematical models to represent and understand quantitative relationships; and analyzing change in various contexts.

MTE 555 - Research Techniques for STEM and Education
Hours: 3
This course, Research Techniques for STEM and Education, will focus on Math and Education research topics that are necessary for the person who is pursuing a graduate degree and/or who wishes to work in higher education. Students will explore concepts that are integral to the research process at this level in higher education. Particular areas of study include: Institutional Review Boards (IRBs); topics of Research Conduct (Responsibility and Ethics that are related to research); grant writing for STEM areas; preparation for a MATH 595, thesis, or even a dissertation; writing research articles; and other research areas. This course is a Special Topics course and will offer students a unique opportunity to experience some areas of research, such as IRB proceedings. Prerequisites: Graduate student status.

MTE 556 - Stat Reasoning for Teachers
Hours: 3
National Council of Teachers of Mathematics (NCTM) explains in its Principles and Standards (2000) that statistical reasoning is essential to being an informed citizen, employee, and consumer; thus it is essential for all students. This course is designed to prepare the teachers to create learning environments conducive to meeting the national and state standards regarding statistical reasoning. Topics include formulating questions that can be addressed with data; collecting, organizing, and displaying relevant data to answer questions; selecting and using appropriate statistical methods to analyze data; developing and evaluating inferences and predictions based on data; understanding and applying basic concepts of probability. Topics on statistics and assessment may also be covered.

MTE 557 - Problem Based Learning in Mathematics and Science
Hours: 3
This course is specifically designed for teachers 7-12. The National Council of Teachers of Mathematics (NCTM) explains in its Principles and Standards (2000) that all mathematical learning should be grounded in problem solving and mathematical reasoning. This course focuses on project-based and problem-based learning (PBL); conducting PBL and its applications in the classroom.

MTE 589 - Independent Study
Hours: 1-6
Independent Study - Hours: One to Six Individualized instruction/research at an advanced level in a specialized content area under the direction of a faculty member. Prerequisites Consent of department head. Note May be repeated when the topic varies.

MTE 597 - Special Topics
Hours: 1-4
Hours: One to four - Organized class Note May be graded on a satisfactory (S) or unsatisfactory (U) basis. May be repeated when topics vary