MTE 5301E. Visual Models for Middle School Mathematics.
This course uses visual models to motivate understanding of the
fundamental concepts underlying middle school mathematics.
Pedagogical techniques to engage middle school students will also be
addressed including inquiry-based instructional methods utilizing these
visual models.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Topics
Grade Mode: Standard Letter

MTE 5301F. Implementing New Mathematics Curriculum.
In this course we will investigate the keys to successfully implementing
new curriculum. Two main aspects considered are: 1) the mathematical
content knowledge required for a new curriculum and 2) how to build a
community of practice which provides support during the implementation
process.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Topics
Grade Mode: Standard Letter

MTE 5301G. Mathematics for Teaching.
A study of the current trends and topics found in the secondary school
mathematics curriculum taught from an advance perspective. Course
context will be flexible and topics will be selected on the basis of student
needs and interests.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Topics
Grade Mode: Standard Letter

MTE 5302A. Quantitative Reasoning.
This course covers current pedagogy, curriculum, and methods related
specifically to the teaching of middle school mathematics. Some of
the topics explored are curriculum theory, instructional theory, learning
teaching, problem solving, national and state standards and assessment,
discovery learning, assessment methods, manipulative, and technology in
the classroom.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Topics
Grade Mode: Standard Letter

MTE 5311. Quantitative Reasoning.
This course will focus on numerical reasoning and problem solving with
particular attention being placed on strategies for solving problems,
methods for mental computation and computational estimation, and
algorithmic processes being taught in a student-centered atmosphere
where teachers are free to take risks.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

MTE 5313. Geometry and Measurement.
This course will focus on using spatial reasoning to investigate
the concepts of direction, orientation, shape and structure; using
mathematical reasoning to develop and prove geometric relationships;
using logical reasoning and proof in relation to the axiomatic structure
of geometry; using measurement of geometry concepts to solve real-
world problems. 5315 Algebraic Reasoning. (3-0) This course will focus
on using algebraic reasoning to.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

MTE 5315. Algebraic Reasoning.
This course will focus on using algebraic reasoning to investigate
patterns, make generalizations, formulate mathematical models,
and make predictions; using properties, graphs, and applications
of relations and function to analyze, model and solve problems; and
making connections among geometric, graphic, numeric and symbolic
representation of functions and relations.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

MTE 5317. Math Modeling.
This course will focus on modeling problems, applying appropriate
mathematical analysis and drawing conclusions from the analysis;
solving problems recursively, using linear and non-linear functions and
using geometry and discrete mathematics to solve problems in Science,
Music, and Art. Prerequisite: MTE 5315 with a grade of "C" or better.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

MTE 5319. Concepts of Calculus.
A first course in differential and integral calculus. The student will explore
the slope of secant lines, average velocity, limit, instantaneous velocity,
derivative, slope of a curve at a point, area under a graph, integrals,
fundamental theorem of calculus, and applications. Prerequisite: MTE 5317 with a grade of "C" or better or instructor approval.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

This course will deal with using graphical and numerical techniques
to explore data, characterize patterns, and describe departures from
patterns; designing experiments to solve problems; understanding the
theory of probability and its relationship to sampling and statistical
inference and its use in making and evaluating prediction. Prerequisite: MTE 5315 with a grade of "C" or better.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

MTE 5323. Logic and Foundations of Mathematics.
This course will consist of an introduction to fundamental mathematical
structures and techniques of proof. Topics will include: logic, set theory,
number theory, relations, and functions. Emphasis will be placed on
communication about mathematics and construction of well-reasoned
explanations. Prerequisite: MTE 5313 and MTE 5319 both with grades of
"C" or better.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter