MATHEMATICS EDUCATION (MAED)

MAED 501. Number Concepts and Algebra. 3 Hours.
This course is for elementary mathematics teachers seeking certification as Master Mathematics Teachers. The course provides a rigorous study of the concepts and applications of number concepts and algebra for the elementary classroom from advanced theoretical, historical, and pedagogical viewpoints. A research component will be required. Appropriate computer software and hand held technologies will be utilized. Prerequisite: Acceptance into the Master Mathematics Teacher Certification Program or instructor approval.

MAED 502. Patterns and Geometry. 3 Hours.
This course is for elementary mathematics teachers seeking certification as Master Mathematics Teachers. The course provides a rigorous study of the concepts and applications of patterns and geometry for the elementary classroom from advanced theoretical, historical, and pedagogical viewpoints. A research component will be required. Appropriate computer software and hand held technologies will be utilized. Prerequisite: Acceptance into the Master Mathematics Teacher Certificate Program or instructor approval.

MAED 503. Measurement, Probability and Statistics. 3 Hours.
This course is for elementary mathematics teachers seeking certification as Master Mathematics Teachers. The course provides a rigorous study of the concepts and applications of measurement, probability and statistics for the elementary classroom from advanced theoretical, historical and pedagogical viewpoints. A research component will be required. Appropriate computer software and hand held technologies will be utilized. Prerequisite: Acceptance into the Master Mathematics Teacher Certificate Program or instructor approval.

MAED 520. Mathematics Methods for Secondary Education. 3 Hours.
The course is designed to provide experience with methods for teaching mathematics at the secondary level. Course content will focus on mathematics instruction and contemporary topics as outlined by the NCTM Principles and Standards for School Mathematics. Course instruction is designed to help the mathematics teacher understand how to better plan, develop, and implement teaching methods and strategies in the classroom. Appropriate computer software and hand held technologies will be utilized. Offered in the summer as needed. Prerequisite: At least 24 hours of undergraduate mathematics or instructor approval.

MAED 529. Workshop in Mathematics Education. 3 Hours.
This course is designed to provide in-service mathematics teachers with content knowledge and pedagogical techniques for teaching mathematics to grades K-12. Topics include problem solving, numbers and operations, patterns, functions, algebra, geometry and measurement, data analysis, statistics, probability, trigonometry, and calculus. Appropriate computer software and hand held technologies will be utilized. This class is offered in the summer as needed and may be repeated when topics vary. Prerequisite: At least 12 hours of undergraduate mathematics or instructor approval.

MAED 540. Problem Solving for Elementary Teachers. 3 Hours.
This course is designed to extend the participants' knowledge and skills in teaching elementary mathematical concepts utilizing exploration, conjecture, communication, and reasoning strategies. There will be an emphasis on using logic and evidence rather than the textbook as authority; critical thinking rather than memorization, and problem solving rather than repetition, and the connection of concepts to real-world applications. Students will be challenged to expand and modify their current notions about effective elementary mathematical teaching. A research component will be required. Appropriate computer software and hand held technologies will be utilized. Prerequisite: At least 12 hours of undergraduate mathematics or instructor approval.

MAED 589. Individual Study. 3 Hours.
This course provides an option for individualized instruction and research. It may be repeated when topics vary. Prerequisite: Instructor approval.

MAED 597. Special Topics. 3 Hours.
This is an organized class and may be repeated when topics vary. Prerequisite: Instructor approval.