

COLLEGE: College of Education



Catalog Page(s) Affected:

Course: Add:   x   Delete:        Change: Number    Title     
 (check all that apply) SCH    Description    Prerequisite   

If new, provide Course Prefix, Number, Title, SCH Value, Description, prerequisite, and lecture/lab hours if applicable. If in current catalog, provide change and attach page with changes in red and provide a brief justification. Please see reverse side of this page.

The Department of Curriculum & Instruction requests authority to offer the following courses as a part of a minor in Math Education for the Master of Science in Mathematics degree in the College of Arts and Sciences:

**EDME 5310: Problem-solving Techniques for Secondary Mathematics Teachers**

An intensive exploration of successful problem-solving techniques for the secondary mathematics teacher. Emphasis will be placed upon recognizing and developing individual competency in the various best practices associated with successful transfer of both content and skill in mathematics. Additional focus will cover pragmatic and proven techniques for engaging students who are challenged in language, cognitive ability, and/or interest in mathematics.

**EDIT 5322: Technology Applications for Secondary School Mathematics and Science Teachers**

An intensive concentration on the development and enhancement of various technology applications used in the secondary science and mathematics classroom. Specific attention will be paid to skill with graphing calculators, mathematics and science software packages used in the middle school classroom, and other pertinent electronic-based resources. Significant time in the computer laboratory is a major component of this course.

**EDME 5390: Issues and Problems in Secondary Mathematics Education-**

Specific attention will be focused on various contemporary issues concerning the teaching of mathematics to secondary students. Group discussions, debates and other classroom methodologies may be employed by the course instructor to fully develop students' interest, knowledge base, and inquiry into issues related to successful mathematics instruction.

**Rationale for Courses:** The additional of this option as a minor along with the above mentioned courses will serve to strengthen the pedagogical knowledge base of secondary math teachers pursuing a graduate degree in Mathematics.

Program: Add:        Change:        Attach new/changed Program of Study description and 4-year plan. If in current catalog, provide change and attach page with changes in red.

Minor: Add:   X   Delete:        Change:        Attach new/changed minor.  
 If in current catalog, provide change and attach page with changes in red.

Faculty: Add:        Delete:        Change:        Attach new/changed faculty entry.  
 If in current catalog, provide change and attach page with changes in red.

College Introductory Pages: Add information:    Change information:         
 Attach new/changed information. If in current catalog, provide change and attach page with changes in red.

| Approvals:                               | Signature | Date  |
|--|-----------|-------|
| Chair<br>Department Curriculum Committee | _____     | _____ |
| Chair<br>Department                      | _____     | _____ |
| Chair<br>College Curriculum Committee    | _____     | _____ |
| Dean                                     | _____     | _____ |

**TEXAS A&M INTERNATIONAL UNIVERSITY  
COLLEGE OF EDUCATION  
DEPARTMENT OF CURRICULUM AND INSTRUCTION**

STUDENT OUTCOMES FOR COURSES SUBMITTED TO THE UNIVERSITY CURRICULUM COMMITTEE  
FOR APPROVAL 2/15/08

**I. EDME 5390: Issues and Problems in Secondary Mathematics**

- a. The student will be able to apply knowledge of mathematical content, use appropriate theories for learning mathematics, implement effective instructional approaches for teaching mathematics, and demonstrate effective classroom techniques (Standard VI for the Master Mathematics Teacher Certification)
- b. The student will be able to select, construct, and administer appropriate assessments to guide, monitor, evaluate, and report student progress to students, administrators, and parents, and develop these skills in other teachers (Standard VIII for the Master Mathematics Teacher Certification)
- c. The student will be able to facilitate appropriate standards-based mathematics instruction by communicating and collaborating with educational stake-holders; mentoring, coaching, exhibiting leadership, and consulting with colleagues; providing professional development opportunities for faculty; and making instructional decisions based on data and supported by evidence from research (Standard IX for the Master Mathematics Teacher Certification)
- d. The student will be able to demonstrate understanding of the historical development of mathematical ideas, the interrelationship between society and mathematics, and the evolving nature of mathematics and mathematical knowledge (Standard X for the Master Mathematics Teacher Certification).

**II. EDME 5310 Problem-Solving Techniques for Secondary Mathematics Teachers**

The student will be able to understand and use mathematical processes to reason mathematically, to solve mathematical problems, to make mathematical connections within and outside of mathematics, and to communicate mathematically (Standard V for the Master Mathematics Teacher Certification)

**III. EDIT 5322**

**Technology Applications for Secondary School Mathematics and Science Teachers**

The student will be able to use innovative and emerging technology applications in mathematics or science instruction.

The student will be able to assist their students in learning mathematics and or scientific concepts through the use of technological tools, based on evidence from effective practices and research.

The student will be able to select and use technology that has demonstrated effectiveness with a range of students, including students who are at-risk