CATALOG YEAR 2012-2013

COLLEGE/SCHOOL/SECTION: COAS______________________________________

Course:  Add: __X__  Delete: ___
(check all that apply)  Change:  Number ___  Title ___  SCH ___  Description ___  Prerequisite ___
Response Required:  New course will be part of major _X__ minor ___ as a required _X__
or elective ___ course
Response Required:  New course will introduce __X__, reinforce _X__, or apply ___X__
concepts

If new, provide Course Prefix, Number, Title, Measurable Student Learning Outcomes, SCH Value, Description, prerequisite, and lecture/lab hours if applicable. If in current online catalog, provide change and attach text with changes in red and provide a brief justification.

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

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

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

Other:  Add information: ___  Change information: ___  Attach new/changed information. If in current online catalog, provide change and attach text with changes in red.

Approvals:

Chair
Department Curriculum Committee

Qingwen Ni

Rafic Bachnak

James A Norris

Kevin Lindberg

04/2011
**Course Description**

MATH 3390 Principles of Mathematics for Elementary Educators

An in-depth study of the mathematical principles and concepts underlying the traditionally computational techniques for the teaching of mathematics at early childhood and elementary school levels. The course content includes problem solving; arithmetic, algebra, geometry, probability, logic, counting, numeration and number systems (including natural, integer, rational, and real number systems), and their historical development; content based teaching; integrating various areas of mathematics; and examining connections of college-level mathematics course contents with the mathematics content of and its effective teaching at the early childhood and elementary school levels.

Students must earn a “C” or better to successfully complete the course. The course may not be counted toward a major or minor in Mathematics or for certification in secondary mathematics. Open only to early childhood/elementary education majors.

Prerequisite: Completion of Block I and a grade of at least “C” in MATH 1351. It is strongly recommended to take this course concurrently with Block II.

**Student Learning Outcomes**

Upon successful completion of the course, the student will be able to:

• analyze, design, and appraise mathematics lesson plans for early childhood and elementary school mathematics;
• recognize, interpret, relate, propose, and assess the appropriateness of application of various pedagogical knowledge and the mathematical content of early childhood and elementary school mathematics;
• recognize and appraise the connection between early childhood and elementary school mathematics content with the mathematics content of college level courses, e.g., through in-class lessons involving both elementary and post-secondary content;
• analyze and appraise mathematics from the historical perspectives, e.g. number and numeration systems through the ages;
• recognize, interpret, and appraise mathematics contributions from various regions, cultures, and societies from ancient recorded history to present;
• recognize, analyze and appraise connections between historical development of mathematical content/concepts and the learning of mathematics by an individual;
• analyze written arguments on mathematical content and pedagogy issues, problems, and theorems; and
• compose written arguments on mathematical content and pedagogy issues, problems, and theorems.

**Justification**

Introduction of a capstone mathematics course for early childhood and elementary school educator preparation programs per College of Education request. This course will be replacing EDIT 3300, so it will not add hours to any degrees that will use the course. At this point, this course is only added to the BSIS EC-6 Reading degree.