



UCC Document # \_\_\_\_\_

College Document # COAS 152

Review Type:  Edit  Exp  Full

**CATALOG YEAR 2012-2013**

COLLEGE/SCHOOL/SECTION: COAS \_\_\_\_\_

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

**Response Required:** New course will be part of major  minor \_\_\_\_\_ as a required  or elective \_\_\_\_\_ course

**Response Required:** New course will introduce , reinforce , or apply  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:	Signature	Date
Chair Department Curriculum Committee	_____	_____
Chair Department	_____	_____
Chair College Curriculum Committee	_____	_____
Dean	_____	_____

### **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.