**Course Outline**

**CIP No. 27.0399**

**EDU 150 Mathematics for Elementary Teachers I**

**Course Description**

First of a two-part course designed to provide students with a broad understanding of basic mathematics concepts, their properties, and applications. Emphasis on the use of problem solving and reasoning through hands-on activities. Intended for pre-service and in-service elementary school teachers. Students will participate in field experiences to observe and present mathematics activities.

**Course prepared by:** Education and Mathematics Departments

**May 2007**

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<tr>
<th>Hours per Week</th>
<th>Number of Weeks</th>
<th>Total Hours</th>
<th>Credits</th>
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<tr>
<td>Lecture</td>
<td>3</td>
<td>16</td>
<td>48</td>
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**Total Credit Hours:** 3

**Purpose of Course:**

- Degree Requirement: X
- Degree Elective: X
- General Education: X
- Certification: 
- Developmental: 
- Other: 

**Prerequisite(s):** MATH 90's or Placement into credit and ENG 80's

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**Signature, Curriculum Committee Chairperson**

**Date:** Dec 4, 2015

**Signature, Dean of Academic Affairs**

**Date:** Dec 4, 2013

**Signature, Vice President of Academic and Student Affairs**

**Date:** 12/14/13

**Last Date reviewed or revised:** November 2013
I. Mathematics for Elementary Teachers I
Course Title

II. Course Objectives

A. General Outcomes

Students will:
1. Develop the ability to convey mathematical thoughts and ideas clearly and concisely in oral and written form (GE 1) (EDU 1,5)
2. Learn mathematics constructively through the use of manipulative devices, models, and diagrams (GE 2) (EDU 1,4)
3. Develop mathematical thinking and modeling arising from other disciplines (GE 3) (EDU 4, 5)
4. Design hands-on activities for teaching mathematical concepts (GE 6) (EDU 4, 5)

A. Student Learning Outcomes

Upon completion of this course, the student will be able to:
1. Communicate verbally and in writing algorithms developed in problem solving
   a. Find and use an appropriate strategy for problem solving
   b. Use inductive reasoning
2. Represent real world situations using manipulatives, pictures, algebraic expressions, and tables
3. Develop problem solving skills, tools and techniques to real world situations involving whole numbers, fractions, integers, and rational numbers
4. Plan an activity that addresses RMI Mathematics Curriculum standards

III. Course Content

The course reexamines basic elementary school mathematics to better understand underlying concepts and to learn why mathematical algorithms and formulas actually work.

1. Teaching of mathematical concepts
2. Practical and interdisciplinary application of mathematical concepts
3. Designing hands-on activities for teaching mathematical concepts
4. Fundamental concepts involving sets, numeration, mental math and estimation, and operations with: whole numbers, integers, fractions, and rational numbers.

IV. Methods of Instruction

1. Field observation and practice
2. Cooperative Learning
3. Journal Writing
4. Hands-on activities
5. Demonstrations/presentations
V. Equipment and Materials

1. Manipulatives
2. Rulers
3. Compasses
4. Protractors
5. Graph paper
6. Calculators
7. RMI Mathematics Curriculum Standards

VI. Suggested Methods of Evaluation

1. Quizzes
2. Homework
3. Assignments
4. Projects
5. Presentations
6. Mid-term & Final evaluations

Letter grades will be assigned per CMI Grading System.
Course History Summary

Course Number: EDU 150  Mathematics for Elementary Teachers

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<th>Date from Minutes</th>
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<tr>
<td>5 - 2007 Written</td>
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<td>Nov 2007</td>
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<td>1/30/09</td>
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