**EDU 150 Mathematics for Elementary Teachers I**

**Course Description**
Strengthens students understanding of basic mathematics concepts, their properties, and applications. Emphasis on 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. First of a two-course series.

**Course prepared by:**
Education and Mathematics Department  
September 2007

<table>
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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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</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>3</td>
<td>16</td>
<td>48</td>
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<tr>
<td>Laboratory</td>
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<td>Clinical</td>
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<td>Seminar</td>
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**Total Credit Hours** 3

**Purpose of Course:**
- Degree [X]
- Requirement [ ]
- Degree Elective [ ]
- General [X]
- Education [ ]
- Certification [ ]
- Developmental [ ]
- Community [ ]
- Education [ ]
- Other [ ]

**Prerequisite(s):** MATH 90s and ENG 80s and Permission of Instructor

**Signature, Curriculum Committee Chairperson**  
12/1/2015

**Signature, Dean of Academic Affairs**  
12/1/2015

**Signature, Vice President of Academic Affairs**  
12/1/2015

Last Date reviewed or revised: Dec 2015
I. **Mathematics for Elementary Teachers I**  
**Course Title** Alpha Number  
EDU 150

II. **Course Outcomes**
   
A. **General Learning Outcomes**

   The student will:
   1. Convey mathematical thoughts and ideas clearly and concisely in oral and written form (GE 1) (EDU 1, 5)
   2. Use manipulative devices, models, and diagrams (GE 2) (EDU 1, 4)
   3. Solve real world mathematical problems (GE 3) (EDU 4, 5)
   4. Select practical activities from different sources to teach mathematical concepts (GE 6) (EDU 4, 5)

B. **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
   2. Use inductive reasoning to represent real world situations using manipulatives, pictures, algebraic expressions, and tables
   3. Apply problem solving skills, tools and techniques to real world situations involving whole numbers, fractions, integers, and rational numbers
   4. Present an activity that addresses the RMI Mathematics Curriculum standards

III. **Course Content**

   The course examines 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. Sets
   3. Numeration
   4. Mental Math and Estimation
   5. Numerical Operations

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. LCD projector
   4. Compasses
5. Protractors
6. Graph paper
7. Calculators
8. RMI Mathematics Curriculum Standards

VI. Suggested Methods of Evaluation

1. Quizzes
2. Homework
3. Assignments
4. Class Participation
5. Final Examination
6. Lesson Demonstrations
7. Activity Projects

Letter grades will be assigned per CMI Grading System.