DEPARTMENT: ECE        COURSE NUMBER: ELE 304        CREDIT HOURS: 3

I. TITLE: ELE 304 Teaching Elementary Mathematics (P-5)

II. COURSE DESCRIPTION: A study of the structure of mathematics and materials and methods which build insight and skill in the curriculum area. Field experiences required. Prerequisite: EDU 303, MAT 115 and MAT 215.

III. PURPOSE: To increase the level of confidence in teaching P-5 mathematics providing the future teacher with appropriate methods, materials, and teaching experiences.

IV. COURSE OBJECTIVES: Class activities will be centered on the attainment of the course objectives listed below. These objectives are understood to be reflective of, but not limited to those behaviors advocated by the Kentucky Education Reform Act guidelines. Following each objective, and enclosed in parentheses, are numbers which reference the Kentucky Teacher Standards for Preparation and Certification (KTS) addressed by that objective. As a result of participation in this course, students will be able to:

A. Demonstrate, appropriate psycho-motor and perceptual aids in learning mathematics concepts and skills. (KTS #1, 2, 3, 4, 7)
B. Demonstrate the ability to sequence learning from a real experience to the more abstract form of experience. (KTS #1, 2, 3, 4, 7)
C. Demonstrate a variety of ways of reinforcing learning for mastery. (KTS #1, 2, 3)
D. Demonstrate knowledge of diversity, closing the achievement gap, reading and literacy, and assessment in mathematics and how to deal with the issues. (KTS #1, 2, 3, 4, 9)
E. Demonstrate knowledge of the scope and sequence of concepts and skills taught kindergarten through the fifth grade. (KTS #1, 2, 4)
F. Demonstrate models of mathematics teaching which are consistent with the Principles and Standards of the National Council of Teacher’s of Mathematics. (KTS #1, 2, 3, 4, 5, 7, 8, 9)
G. Demonstrate ability to integrate mathematics into other content area instruction. (KTS #1, 2, 4)
H. Demonstrate the ability to integrate technology into the mathematics curriculum (KTS #2, 4, 6, 9).
I. Demonstrate the ability to design a unit and lessons for students in the K-5 school setting. (KTS #1-9).

The COE Theme of Educator as Reflective Decision-Maker is addressed in this course by requiring students to reflect on in-class and out-of-class experiences by the use of a journal, Mathematics Inquiry for the EPSB themes, Working Portfolio Entries, and/or Professional Growth Plan.
The EPSB Themes of Diversity, Assessment, Literacy/Reading, and Closing the Achievement Gap are explored in the course through various chapters within the text and more specifically in topics chosen for the Collaborative Inquiry Project as it relates to mathematics.

V. CONTENT OUTLINE:
A. Teaching Mathematics: Influences and Directions
B. Learning and Teaching Mathematics
C. Developing Mathematical Thinking and Problem-Solving Ability
D. Assessing Mathematics Understanding
E. Developing Number Concepts
F. Developing Understanding of Numeration
G. Developing Whole-Number Operations: Meaning of Operations
H. Developing Whole-Number Operations: Mastering the Basic Facts
I. Estimation and Computational Procedures for Whole Numbers
J. Developing Fraction Concepts
K. Developing Fraction Computation
L. Developing Decimal Concepts and Computation
M. Understanding Ratio, Proportion, and Percent
N. Developing Geometric Thinking and Spatial Sense
O. Developing Measurement Concepts and Skills
P. Collecting, Organizing, and Interpreting Data
Q. Developing Algebraic Thinking
R. Meeting the Needs of the Diverse Learner

VI. INSTRUCTIONAL ACTIVITIES:
A. Students will complete daily assignments and participate in large and small group discussions and activities. Participation includes active listening, contributing to group discussions, and working on in-class activities.
B. Student-initiated activities include preparation for and participation in class lectures, discussions, and cooperative activities related to course goals and objectives, including:
1. Reading assigned materials and completing chapter study activities.
2. Participating in large and small group discussions, activities, and presentations.
3. Performing successfully on exams and assignments.
4. Attending class on a punctual and regular basis.
5. Participating in field experiences actively and with a positive attitude.

VII. FIELD, CLINICAL AND/OR LABORATORY EXPERIENCES:
Students are required to complete six hours of observation of an elementary teacher(s) teaching mathematics. Being able to use the public schools as our laboratory for ELE 304 is a privilege and an honor. All students are to show respect for each class, provide hands-on experiential learning, and engage students. Students are expected to dress professionally for each school visit.

A. Students will maintain a personal journal recording their thoughts about their
experiences working with children.

B. The reflection should include an analysis of positive outcomes and areas where improvement was needed. The how’s, where’s, when’s, and why’s must be addressed to demonstrate the role of the teacher as a “reflective decision maker”. Last, the student will craft an overall reflective paper in accordance to the standards established by the Educational Professional Standards Board (EPSB) when writing the reflection paper.

C. Absences for the field experience will not be tolerated because the school, the teacher and the children expect students to fulfill your commitment to them. Students will receive a flag for an absence for the laboratory experience. Also, the student will be encouraged to drop the course.

VIII. RESOURCES:
A. Waterfield Library
B. Curriculum Materials Center (Room AL 341)
C. Internet
D. BlackBoard
E. Center for Environmental Education
F. Other resources provided by the instructor (ex. handouts, etc.)
G. Kentucky Department of Education
H. National Council of Teachers of Mathematics

IX. GRADING PROCEDURES:
A. Course Assignments

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points Possible</th>
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<tbody>
<tr>
<td>Daily Learning Log Entries</td>
<td>100 pts.</td>
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<tr>
<td>Quizzes</td>
<td>10 pts x 10</td>
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<tr>
<td>Two Exams</td>
<td>75 pts. each</td>
</tr>
<tr>
<td>Math Resource and Project Notebook</td>
<td>500 pts.</td>
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<tr>
<td>Mathematics Inquiry Papers (2 papers)</td>
<td>2 @ 25 pts. each</td>
</tr>
<tr>
<td>Math Teaching Observations</td>
<td>5 points X 6</td>
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<tr>
<td>Micro-Teaching</td>
<td>20 pts.</td>
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<tr>
<td>Final</td>
<td>100 pts.</td>
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</tbody>
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Total Points: 975 points

*several components are evaluated

B. Evaluation

Students’ attendance will also be considered when calculating the final grade.

<table>
<thead>
<tr>
<th>Points</th>
<th>Grade</th>
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<tbody>
<tr>
<td>878-975</td>
<td>A</td>
</tr>
<tr>
<td>780-877</td>
<td>B</td>
</tr>
<tr>
<td>683-779</td>
<td>C</td>
</tr>
<tr>
<td>585-682</td>
<td>D</td>
</tr>
<tr>
<td>0-584</td>
<td>E</td>
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X. ATTENDANCE POLICY:  
This course adheres to the attendance policy published in the current MSU Undergraduate Bulletin.

XI. ACADEMIC HONESTY POLICY: 
This course adheres to the academic honesty policy stated in the current MSU Undergraduate Bulletin. 
Note: All assignments shall be submitted electronically (LiveText), when possible.

XII. TEXT AND REFERENCES:  
C. College LiveText-EDU Solutions Student Membership/CHAMPS  
D. Other required readings of the instructor  
E. three inch binder with tabs for handouts  
Note: Other required readings will be provided.

XIII. PREREQUISITES: EDU 303 and MAT 115 and MAT 215

XIV. NON-DISCRIMINATION POLICY STATEMENT:  
Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities. For more information, contact Director of Equal Opportunity, 103 Wells Hall. 270-809-3155 (voice), 270-809-3361 (TDD).

XV. FLAG SYSTEM/ CONTINUOUS ASSESSMENT:  
Student progress is continuously assessed throughout the teacher preparation program. Appropriate professional characteristics and demeanors, in addition to academic achievement, are assessed. Positive and negative flags are submitted by faculty to Teacher Education Services (TES) and then presented to TES admissions committees. Negative flags are carefully reviewed to make a determination as to whether a student should be denied admission OR if a professional development plan will be designed for the student’s progress towards program completion. NEGATIVE FLAGS MAY BE GROUNDS FOR DENIAL OF ADMISSION TO TEACHER EDUCATION AND/OR STUDENT TEACHING.