I. **TITLE:** Teaching Modern Mathematics

II. **CATALOG DESCRIPTION:** Designed to give elementary teachers depth in modern mathematics. Students become familiar with current trends and programs and develop competency in guiding children in developing mathematical concepts.

III. **PURPOSE:** To increase the skills and competencies of primary teachers in teaching mathematics to children keeping in mind the NCTM Standards, Kentucky Learner Goals and Academic Expectations, Core Content for Assessment and Program of Studies.

IV. **COURSE OBJECTIVES:**

   The behaviors indicated below are understood to be reflective of, but not limited to those teacher behaviors advocated by the Kentucky Education Reform Act guidelines. Curriculum connections will be made with KERA Initiatives: Kentucky Learner Goals and Academic Expectations, Program of Studies, and Core Content. Following each objective, and enclosed in parentheses, are numbers that reference the Kentucky Experienced Teacher Standards (ETS). Teachers will be able to:

   A. develop and identify resources available to teach mathematics to children. (ETS 1, 3, 8)
   B. implement new technologies for teaching mathematics. (ETS 3, 9)
   C. relate new ideas in teaching mathematics to equity issues. (ETS 2, 8)
   D. identify and implement the NCTM Standards to Kentucky Learner Goals and Academic Expectations, Core Content for Assessment and Program of Studies. (ETS 1)
   E. extend professional growth and development by engaging in activities of professional organizations for teachers of mathematics. (ETS 5, 6, 7)

   The COE Conceptual Framework and the Theme of Educator as Reflective Decision-Maker are addressed in this course by urging teacher to apply ideas and methods to their individual classroom. Additionally, teachers are asked to share these ideas with others in their school system.

   The Theme of Diversity is explored in the course through the examination of equity issues related to the teaching of mathematics and gender, race, class, and ethnicity.

V. **CONTENT OUTLINE:**

   A. Mathematics as: Problem solving; reasoning; communicating; and making connections
   B. Geometry as it relates to mathematics and all other subjects
   C. Place Value
   D. Statistics and Probability
   E. Estimation
   F. Measurement
VI. INSTRUCTIONAL ACTIVITIES:
A. Journaling of personal reflective experiences.
B. Structured discussions.
C. Hands-on computer and calculator applications.
D. Cooperative group activities.
E. Investigations within and outside of class.
F. Lectures.
G. Written assignments – including a culminating Position Paper on Equity and/or Technology Issues related to the teaching of mathematics.
H. Professional participation in the field of mathematics education by attending a conference for mathematics teachers.

VII. FIELD, CLINICAL AND/OR LABORATORY EXPERIENCES: NONE

VIII. RESOURCES:
A. Arithmetic Teacher, National Council of Teachers of Mathematics
B. AIMS publications
C. Resource books from the instructor’s library

IX. GRADING PROCEDURES:

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<th>A</th>
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<tr>
<td>Reflects noteworthy connections and integration of knowledge.</td>
<td>Journal is complete: -class activities -weekly reflections on personal experience.</td>
<td>Journal is somewhat incomplete but is written at a high professional standard.**</td>
<td>Incomplete and not written at a quality standard deemed acceptable by the profession</td>
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<td>Provides significant leadership without being overbearing</td>
<td>Active contributor to all group/class tasks</td>
<td>Is somewhat reluctant to interact and actively contribute.</td>
<td>Is definitely not an active contributor.</td>
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<td>Reflects noteworthy connections and integration of knowledge.</td>
<td>All written assignments completed at a quality standard deemed acceptable by the profession of teaching.</td>
<td>All assignments are complete but there is a mixed reading on the level of quality.</td>
<td>Assignments are missing and at a standard not acceptable to the profession.</td>
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<tr>
<td>Performs Otherworldly.</td>
<td>Assignments are completed on schedule.</td>
<td>The greatest majority of assignments are completed on schedule—but not all.</td>
<td>Most assignments are not completed on schedule.</td>
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** The instructor will use his/her interpretation and experience as the measure of what is considered the professional standard.

X. ATTENDANCE POLICY: This course adheres to the policy stated in the current MSU Graduate Bulletin.

XI. ACADEMIC HONESTY POLICY: This course adheres to the policy stated in the current MSU Graduate Bulletin.
XII. TEXT AND SELECTED REFERENCES:
There is no required text. Most print materials will be loaned to you.

XIII. PREREQUISITES: NONE

XIV. STATEMENT OF AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY:
Murray State University does not discriminate on the basis of race, color, national origin, sex, religion, marital status, age, or disability in employment, admission, or the provision of services, educational programs and activities, and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. For information regarding nondiscrimination policies contact the Office of Equal Opportunity, 270-809-3155.