4010 - Math for Elementary Teachers Syllabus   Spring 2012

Course: M4010-1, Math for Elementary School Teachers I
                       class meets MWF, 8:15 – 9:25 am LCB 121
Instructor: Marilyn L. Keir, JWB 212, 581-3865
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Office Hours: As posted or by appointment
Text: Mathematics for Elementary School Teachers 7th *edition*
                       by Musser, Burger, and Peterson
                       Graph paper Fractions Book, download later, or purchase
                       4010 – 1 class notes   download now, or purchase
Prerequisite: Math 1050 with a grade of C or higher

Teachers need to become familiar with the pleasures of figuring things out, as well as with the concomitant experiences of confusion and frustration, tolerating their discomfort long enough for things to fall into place. If teachers never learn what this experience feels like, they won't have the gumption to allow their students to go through it either.

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Course Content

This course is the first in a two-semester sequence of required mathematics courses for elementary school teachers. The sequence is designed to help K-6 preservice teachers develop a conceptual framework for mathematics, especially for those aspects normally experienced in primary and elementary school. Through their work in each course in the sequence students examine the common threads of mathematics throughout the curriculum, consider both mathematical and pedagogical issues in teaching, and spend a six hour practicum in a local school relating their course work to the classroom situation.

Please note: This course is designed for preservice elementary school teachers and requires time spent in the elementary school classroom. Students must complete the practicum (described below) in order to pass the course.

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Course Work and Grading
Assignments, POWs, portfolio, participation	30%
Midterms (3)	30%
Practicum Report	15%
Final Exam	25%
Total:	100%

Notes

1. **Portfolio:** The portfolio is a way to organize your work for the semester. It will count as two assignments. You will come in for a portfolio interview the last week of class. It should be well organized and have a table of contents. A more detailed description will follow.

2. **Midterms:** There will be three midterms and the dates planned for these are listed below. If any change becomes necessary, an announcement will be made in class a week before the midterm is scheduled.

3. **Assignments/Quizzes, POW, Participation:**
   - There will be weekly **assignments** handed out in class. These assignments will generally be due a week or so later and will involve an in-class quiz. The topics for assignments will include class lectures, homework, readings from the library, and some information from the Internet. For assignments to be graded, a student's work on the assignment must be **neat and legible**, in order, written on 8 1/2 by 11, one side only, the confetti trimmed off, with all sheets **stapled** and the original assignment sheet attached. Much of this work is related to the portfolio. Grading will be based on the accuracy, thoughtfulness, completeness, and clarity of the student's response to the assignment.
   - **Math Dictionary:** You will keep a dictionary of mathematical terms and symbols.
   - **A POW** (problem of the week) will be assigned each week. You are encouraged to try each of these and expected earn at least 20 points on these. See instructions in POW folder.
   - **Participation:** Your presence and participation in the class activities and discussions are important for your own learning and the learning of others. You should arrive on time, be prepared, be a collaborative participant and not leave early (This includes running out to feed a meter. Or texting on your phone!) 50 points (1 assignment) **Be professional**!

4. **Practicum:** Each student will spend **six hours** in an elementary school classroom, three periods observing and three periods working with one or two children in the classroom. This classroom experience will be the subject of some class discussion and an assignment so please be sure to complete your observations by the end of the 7th week of classes. The practicum report is a typewritten analysis of your mathematical work with the children. Be sure to keep careful notes from your work with the children in order to have the information available when you write your practicum report. This report is due as listed below and will be discussed in detail in class. More details will follow concerning the written report.

5. **Final Exam:** The comprehensive final exam will be on the date listed below.

6. **Course Focus:** There's a lot of truth in the statement, "Knowing math for oneself isn't the same as knowing math in order to teach." According to Liping Ma, a master teacher from China, "A teacher with Profound Understanding of Fundamental Mathematics (PUFM) is aware of the simple but powerful basic ideas of mathematics and tends to visit and reinforce them. He or she has a fundamental understanding of the whole elementary mathematics curriculum, thus is ready to exploit an opportunity to review concepts that students have previously studied or to lay the groundwork for a concept to be studied later." The goal of Math 4010 is to develop a deeper understanding of the mathematics of the Real Number System and learn to effectively communicate this to children.

7. The **Americans with Disabilities Act** requires that reasonable accommodations be made for students with physical, sensory, cognitive, systemic, learning, and psychiatric disabilities. Please contact me at the beginning of the quarter to discuss any such accommodations for the course.

8. **Calculators:** Calculators will not be allowed on exams.

DATES:			EXAMS	Friday exams
MLK Day	Mon., 1/16		Midterm 1	210
President's Day	Mon., 2/20		Midterm 2	3/9
Spring Break	Mar. 12-16		Midterm 3	4/13
Last day to drop	Wed., 1/18		**Practicum**	**4/16 (Monday)**
Last day to withdraw	Fri., 3/ 2		**Final**	**4/27 (Friday)**
Last Class	Wed., 4/25			