

MA 201 – Mathematics for Elementary Teachers – Section 002

University of Kentucky, Department of Mathematics
Fall 2014

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Office Hours: M 3:30-4:30pm POT718
T 9:30-10:30am POT718
T 1:00-2:00pm POT718
& Other times by appointment

Meeting Times: TR 8:00-9:15am, CB 339

Textbook: We will be using the book *Mathematical Practices: Mathematics for Teachers* by Ron Larson and Robyn Silbey. Students are expected to read the sections in the text before we cover them in class.

Introduction: In this course, we will cover Chapters 1-8 in the textbook. This course will provide future elementary educators with the mathematical background needed for teaching elementary school mathematics. The emphasis of the course is on developing conceptual knowledge which is a requirement for effectively communicating mathematics to elementary school students. In particular, we will concentrate on the *why* more than the *how*. This is not a pedagogy course! This is an upper level college mathematics course in which you will acquire mathematical skills to use in future education courses.

Outcomes: Students who successfully complete MA201/202 will:

- Have a comprehensive knowledge of elementary school mathematics.
- Be able to describe the standard concepts of elementary mathematics in several ways and be familiar with various mathematical modeling techniques.
- Understand and appreciate the importance of mathematics in the elementary school curriculum and effectively advocate mathematics to students.

Motivation: You graduated from elementary school, so why do you need to take this course? This course is not a repeat of elementary school mathematics. You will learn the same concepts, but on a much deeper level; and this will help you effectively explain mathematics to your future students. For example, rather than being able to correctly add two fractions, you will know several models to aid in the teaching of adding fractions and explain why they work. In order to effectively teach mathematics at any level:

- Your mathematical understanding of the concepts you teach must be much deeper than the procedural level. You must be able to explain why and how mathematics works.
- You need to be familiar with many ways of describing and modeling mathematical concepts.
- You must have the ability to understand students' difficulties and have the flexibility to accommodate individual student learning styles.

Attendance and Participation: A portion of your homework and quiz grades will be determined by attendance and class participation. This class is very interactive. Therefore, attendance is mandatory. The list of excused absences includes illness, death of a family member, any trips organized by the university, and religious holidays. Excused absences must be reported as soon as possible, within a week at the latest. To report an absence, **email me** at the email address provided above, and you are expected to furnish proof demonstrating the cause compelling you to miss class at the next class meeting for which you are present.

I expect you to participate by being present, engaging in group activities, asking and answering questions. This includes bringing your textbook if you need it, something to write with and on, and anything else you might need. Students are expected to ask questions when they don't understand something.

Classroom Policies: Due to the nature of this course, students will not be permitted to use a calculator unless otherwise specified by the instructor. Therefore, using a calculator (except on the rare occasions when the instructor deems it appropriate) will be considered cheating. Cellphones and other electronic devices should be set to silent (not vibrate) and should not disrupt class in any fashion. If you expect an urgent phone call, please inform me before class. I do not allow texting inside of the classroom. Cheating will not be tolerated.

Homework: Mathematics requires practice. You will submit weekly homework assignments to practice and demonstrate what you learn in class. Homework will be collected on Tuesdays **at the beginning of class**. No late homework will be accepted for any reason aside from University Excused Absences as described in SR 5.2.4.2. In the event of an excused absence, you are expected to turn in your assignment **within one week** of the excused absence. These assignments are given to assist you in your preparations for the course exams and your future career as a teacher. Therefore, it is to your benefit to complete them. Your work

should be written in full sentences. They will be graded on the basis of completion rather than accuracy, and you must attend class, or have an excused reason for your absence, to receive credit for your homework. You are allowed to work with others on your homework, but should write up your solutions on your own. Zeroes will be given for any assignment on which work is not shown or cheating of any kind is evident.

Quizzes: There will be short quizzes on Thursdays based on the homework you turn in on the previous Tuesday. There may be other random quizzes as well. These quizzes will be graded for accuracy and provide you with feedback necessary for the successful completion of exams. Quizzes missed due to unexcused absences **cannot** be made up. A grade of 0% will be issued for such quizzes. Quizzes missed due to excused absences must be made up outside of class time **within one week** of the excused absence.

Presentations: We will have daily class activities. They will be announced the prior class for everyone to look over, and each student will be required to present solutions to the class at least once. The presentation will be graded, will run approximately 5 minutes, and will provide a chance to practice effectively communicating mathematics. You will also submit a short self-reflection, about a half page, discussing how you think your presentation went, how it may have been improved, and how you think the class reacted. Reflections are due the class following your presentation. The activity and the self-reflection will each contribute half of your presentation grade. Further details for presentations will be given within the first few weeks of class.

Exams: You will complete three in-class exams this semester, as well as one final exam. If you need a make-up or alternate exam, please follow university policy to obtain one. Calculators, notes, and books are strictly forbidden, unless otherwise specified in class. The tentative dates for the midterm exams are as follows.

Exam #1: Thursday, September 25th

Exam #2: Tuesday, October 21th

Exam #3: Thursday, November 20th

The final will be Monday, December 15th at 8:00am in CB 339. You will not be permitted to take the exam with another section.

Grading: The breakdown of your course grade is as follows:

Homework	40
Quizzes	40
Presentation	20
Exams 1	100
Exams 2	100
Exams 3	100
Final Exam	100
Total	500

Cheating: Students are encouraged to work together on the course material. Part of the work in class may be group work. It is, however, expected that you work on all quizzes and exams alone. While you may work together on the homework, every member of the class must turn in his or her own solutions which represent the work that the individual has put into the assignment. Copying someone else's solution **or** allowing someone to copy your solution is cheating. **Don't do it!** No materials should be visible during exams, and any kind of communication with other students during an exam will be considered cheating.

Disabilities: Students with documented physical, learning, or temporary disabilities may receive assistance and support from the Disability Resource Center. See documentation guidelines for more information at <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/>. Students should provide the instructor with a copy of their accommodation letter as soon as possible. Letters must be received at least one week prior to the requested accommodation.

How to Succeed: This course is challenging for some students. If you find you are struggling, try the following:

- Come to my office hours and email me if you have questions.
- Read the book and study your notes.
- Form a study group.
- Make a study plan.
- Ask me for help!