

**MATH 111: MATHEMATICS FOR EDUCATION STUDENTS
MCGILL, WINTER TERM 2003-2004**

INSTRUCTOR: DAVID SAVITT

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Office hours: Tuesday 1-2 pm (after class), Wednesday 4-5 pm

Course website: <http://www.math.mcgill.ca/~dsavitt/math111>

Goals of the course:

- Refresh your mathematical knowledge. The table of contents of the textbook will give you an accurate picture of the material we will cover this semester.
- Increase your confidence in your mathematical ability. As a close friend of mine (a grade 7 and 8 math and science teacher) says, it is almost impossible to convince students that they understand material that you don't believe you understand yourself.
- Raise your level of comfort with mathematical reasoning. Mathematics is a subject of *ideas*, not of *memorization*, and I hope that by the end of the course you will be convinced that math questions are not questions to which you either *know* or *don't know* the answer, but rather are questions where—starting from a few ideas and the ability to reason mathematically—you can *figure out* the answer.
- Increase your enjoyment of mathematics! Enthusiasm for your subject matter is crucial for successful teaching, and while it's possible to fake this, it's better if you don't have to!

Not a goal of this course: to learn mathematical teaching pedagogy. I am a mathematician, not a member of the Education department, and am not qualified to teach you how to teach mathematics to children; for these (essential!) skills, you will want to take (or may already have taken) EDEE 230 and 332. This is a mathematics course, not an education course.

Textbook: Billstein, Libeskind, and Lott, *A Problem Solving Approach to Mathematics for Elementary School Teachers*, 8th edition. This text contains a very large amount of mathematical information and many interesting problems, and typically introduces material in a manner you could reasonably follow when you teach it to young students; so, while the book is expensive, you may find that it will be a useful reference for years to come.

Midterms: There will be in-class midterms on Thursday, February 12 and Tuesday, March 16.

Homework: There will be twelve weekly assignments, due in class each Tuesday. Solutions will be distributed, so late homework will not be accepted. I will generally grade somewhere between two and four of the problems on each homework assignment, but you will not know in advance which problems will be graded.

You will also be expected to read the textbook, at the rate of roughly a chapter per week. I will be happy to discuss anything in the reading that you aren't sure you understand, either in class or at office hours.

Grades: Grades will be computed as follows:

Homework: 24% (2% per assignment)

First midterm: 20%

Second midterm: 20%

Final exam: 30%

Class participation: 6%

Total: 100%

Questions: If you have a question but aren't sure whether or not you should ask it, then *please do ask it*. Questions are always welcome!