Math 247Q - Section 1
Fundamentals of Algebra and Geometry I

Fall 2007

Instructor: Fabiana Cardetti
Office: MSB 216 phone: 486-3442
Class Times: TuTh 2-3:15PM MSB 403
Office Hours: Tues., Wed., and Thurs. 3:45-4:45 PM or by appointment.
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Announcements and materials:
Check here regularly for study materials and announcements about the course.

Prerequisites: PSYC 132 and three credits of Mathematics other than MATH 101.
Restrictions: Not open for credit to students who have passed MATH 210 or 211 or 220.

Text: *Mathematics for Elementary Teachers via Problem Solving: Student Resource Handbook,*
by Masingila, Lester, and Raymond, Second Edition.
Activity Manual: *Mathematics for Elementary Teachers via Problem Solving: Student Activity Manual,*
by Masingila, Lester, and Raymond, Second Edition.

Be aware that I will supplement our textbook often. Make sure you receive a copy of all supporting material throughout the semester.

Course Description:
The Math 247/248 sequence are mathematics courses, and so the primary goal of these courses is to improve, broaden, and deepen student facility with, appreciation for, and understanding of mathematics. This course is not intended to correct

deficiencies in basic mathematical background. Though this course will be sensitive to instructional issues, it is not intended to teach you how to teach. Issues such as "the mathematics kids need to know" and "the methods for teaching elementary school mathematics" will be addressed in your mathematics methods course (EDCI 222). However, the student-centered focus, the variety of instructional techniques, and the ties to the standards will help you begin building an advanced perspective on the teaching of elementary mathematics.

This course will examine familiar mathematics from a perspective that will be new to most of you. We will focus on the abstract and theoretical structure of mathematics, emphasizing problem solving, communication, and reasoning. In other words, we will be exploring and communicating the ideas and reasons behind the mathematical manipulations.

Numeracy, the ability to represent, communicate, and interpret quantitative information, has become an integral part of our social definition of literacy. Thus, another goal for the course is to strengthen your spoken and written communication within mathematics. Writing well in mathematics requires fluency in the precise descriptive language of mathematics and careful logical organization. The writing portions of assignments will also serve to start you on your way to making the transition from learner to teacher in mathematics.

Class Meeting Format:

In class, we will often work in collaborative groups of 3 or 4 to stimulate dialogue between you through "hands-on" activities (physical activity with blocks, sticks, dice, paper, chips, etc.) and systematic inquiry (using physical and linguistic tools to communicate understanding, justify your thinking, and pose new problems.) If your group is unable to complete the work during class time, you should set a time when you can all get together to complete it. Group work should be turned in either at the end of class or at the beginning of the next class period. You will have to make notes of all the reading assignments. The notes you take will serve as your lecture notes. We will work in one or two activities per week (hence the activity manual will be needed in class). Occasionally (about once a week), these activities will be collected and graded.

Late, sloppy or irritating papers will be returned unread with no credit. There are two aspects to a good paper: content and presentation. This course emphasizes both since they are equally important. There will be regular quizzes, two hour-exams and a cumulative final.

Homework problems assigned each class are to be done at home for the next class meeting. There will be limited time at the beginning of each class period for homework questions.

When you have questions you should prepare them carefully before class. If your

question is related to a homework problem, you should be ready with a statement of the problem, what you were able to do with the problem and the nature of the difficulty. Spending time searching for the statement of a problem and formulating your question after you have been recognized is discourteous to your peers. The rest of the class is expected to show courtesy as well by listening and offering suggestions. Questions to track down computational errors are not appropriate for class time and should be asked individually in my office.
You will find that this course is structured to provide you with the experience of developing your own mathematical ideas. You will work on exercises that will lead you toward understanding of concepts behind familiar operations as well as some new ideas. Your instructor will be available to help you when you get stuck and to provide an over-arching context for what you are doing. The important point is that you will be doing rather than listening to lectures.
Requirements: Pencils, eraser, colored pencils, a clear plastic ruler, and a calculator; (no Cell-phone calculators!)

Other expectations:

- The best way to insure your successful completion of this course is to **come to class and keep up with the assignments!**

- Be reminded that **2 student hours devoted to assignments and preparation for every hour of classroom time** is a reasonable expectation for an average student.

- Barring unforeseen medical or other serious conditions, I expect you to be in class on time every day. If you must miss a class, please leave a message on my answering machine (486-3442) prior to class time and be sure to **contact a classmate to find out what you missed**.

Course Coverage:
Chapter 1--Chapter 6 (not all chapters will be covered)
Attendance Policy:
As future teachers, I expect that you are committed to learning and will not miss class. A lot of what I hope will happen for you in this course will take place inside the classroom, working in groups and talking with others. Sometimes you will be asked to write up your ideas and solutions, but always you are expected to think about the problems, participate in solving them, and communicate your ideas with others. Arriving late (after we have started class) or leaving early is disruptive and disrespectful. If however, you cannot avoid it, please arrange in advance with me.

Grading: Activities (group work)--15%, Homework --15%, Quizzes -- 20%, Exams (2) -- 30%, Cumulative Final -- 20%.

Exam schedule(tentative)
Exam 1 Thursday, Oct. 11.
Exam 2 Tuesday, Dec. 4.

Final Exam TBD. Room is yet to be announced.

Make-up policy:
No late assignments will be accepted. There will be **no** makeup quizzes. Your lowest quizz grade will be dropped at the end of the semester, if you miss a quiz that will be the quiz grade that is dropped. No make-up exams will be given. The only exceptions to this rule may be made if you notify your teacher in advance with a valid excuse. Only one exam can be made up with a legitimate excuse.

Academic Integrity
("Beginning with the fall semester 2000, syllabi should include a warning about academic misconduct, particularly cheating and plagiarism." See http://www.dos.uconn.edu/studentcode