## Math 103 Policy — Fall 2007


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### Course objectives

Math 103 is called *The Nature of Mathematics*, and according to the course catalog is "intended to give students insight into what mathematics is, what it attempts to accomplish, and how mathematicians think." Specifically, you will:

- explore the nature of mathematics,
- discover mathematics on your own,
- learn about proofs and logic, and
- get a glimpse into what it is like to be a mathematician.

Each professor in the mathematics department teaches this course differently, with different materials. This Math 103 section is a hands-on discovery course with somewhat odd materials:

- the card game SET (available now at the bookstore),
- a series of handouts and worksheets that I will give to you,
- the Japanese pencil puzzle book *PENPAMIX* (available in the bookstore in October), and
- possibly some knot-making materials if we have time for a unit on knot theory.

### Is this course for me?

In some elementary mathematics courses, a student with a strong mathematical background might get away with resting on his or her previous knowledge, not coming to class much, and not doing homework, and yet still do well enough on the exams to do well in the course. This section of Math 103 is not one of those classes. The material we will cover will be new to everyone; no student will have an advantage. Students who have struggled with mathematics in the past will be on an even playing field with students who have had success in mathematics. This is very much an *active* class, and most of what we do will happen during the class hour. If you prefer being able to miss a lot of classes or do not wish to be an active participant in class, then you need to switch to a different section of Math 103, or a different course, immediately.

### House rules

To do well in this class you must follow these four rules:

1. **Come to class *and participate* every day.**

   You are expected to come to class on time and to stay for the entire class period. Very specific things will happen in class that will be difficult or even impossible to replicate on your own outside of class. I will track attendance through short end-of-class quizzes, and I will keep track of participation points in various ways, including the use of participation ratings by your group members.

2. **Be responsible about absences.**

   You do not have to get my permission to be absent from class (except on test or presentation days), but you have to be responsible when it happens. In particular, it is your responsibility to find out about any announcements or assignments mentioned in class, and it is your responsibility to talk with your current group members to determine any extra work you should do to stay active in your group. Please try to avoid asking *me* what you missed; get this information from a classmate if at all possible.

3. **Before each class, do the small amount of homework that I assign.**

   I will not assign overly much out-of-class work, but I expect that anything I do assign will be completed by everyone in the class so that we are all ready to effectively use each class hour. Most of the time the day's homework assignment will be a very small task that will help start the next day's activities. If it seems that people are coming to class unprepared, I will start assigning and collecting larger, more difficult homework assignments. In addition to the small homework assignments I will give, there will be a few times during the semester when you will have to meet outside of class with your group members.

4. **Be an active student and group member.**

   Whether we are doing group or individual activities in class, please give the activity your full attention. At least *try* to get into the spirit of the course and be interested – you'll have more fun and learn a heck of a lot more than if you just tune out. If you or your group finishes an activity early, do not just sit there or chit-chat; as you can imagine this does not leave a good impression on the teacher, i.e. the person who determines your participation points! Instead, use any free time to assist other groups or people that need help, or to try to take the activity further. Try to be an active member of your group; if you don't pull your weight, your group members suffer – and they'll indicate this on their rating forms.

### Grades

I estimate that approximately 50% of your grade will be determined by two in-class tests (dates TBA) and the final exam. The other 50% of your grade will be determined by projects and homework assignments, class participation and presentations, group work contributions, and daily mini-quizzes. These percentages are subject to change depending on what happens in class; for example, if we end up having just one in-class exam, then the exam percentage will be smaller.

### Extra Credit

There will be some small opportunities for extra credit during the semester, specifically:

- points for completing the math department's Puzzle of the Week,
- points for attending up to two mathematics department colloquia on Monday afternoons,
- points for attending the SUMS Conference on Saturday, October 13, and
- other extra credit opportunities that I will offer to the entire class.

I will not under any circumstances give special extra credit assignments to individual students. In particular, if near the end of the semester you find that you have not earned the kind of grade that you would like, I will not give you extra credit assignments to boost your grade.

### Getting help

Please feel free to contact me by email, during office hours or by instant message, phone, or appointment (those options are in order as to what I most prefer). You may also seek mathematical help at the Math and Science Learning Center in 102 Wilson Hall; however, they have been instructed *not* to help you on any projects or "discovery" assignments.

### General Education requirements

Math 103 is part of Cluster Three, Track 1 of the General Education Requirements (Groups 1 and 3). This course will satisfy General Education objectives 1, 2, 5, and 6:

- Describe the methods of inquiry that lead to mathematical truth and scientific knowledge.
- Use theories and models as unifying principles to understand phenomena and make predictions.
- Use graphical, symbolic, numerical methods to analyze, organize, and interpret phenomena.
- Discriminate between association and causation, identify evidence used to establish causation.