

Math 590 Syllabus

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Text: How to teach mathematics by Steven Krantz, published by the American Mathematical Society; 2nd edition.

Course Information: The course involves directed studies of methods in the presentation of college mathematics topics, as well as teaching and testing techniques. It is required for all teaching assistants during their first year, and may not be used for credit toward a degree. The following topics will be covered:

- Preparing for classes
- Eye Contact
- Giving clear presentations in the classroom
- Motivating students
- Engaging, interacting with students, and getting students involved in the classroom
- Training students as critical thinkers
- Inductive teaching
- Blackboard techniques
- Preparing and grading tests
- Other issues

Other aspects such as handling cheating, classroom disciplines, and academic needs will also be covered.

Goals and Learning outcomes: The main goal of this course is to train students to teach college mathematics effectively. The major learning outcomes are

- Upon completing the course, a student will learn some fundamental ideas and techniques of teaching college mathematics.
- Upon completing the course, a student will be able to make clear presentations in the class.
- Our trained students will teach mathematics effectively, not only passing on knowledge, but also enhancing students' critical thinking and analytical reasoning abilities.
- Upon completing the course, graduate students will be well trained to become effective and proficient graduate instructors.
- Upon completing the course, graduate students will be well prepared for their future academic careers as teachers.

Undergraduate students will learn some fundamental ideas and techniques of teaching college mathematics, and will be able to make clear presentations in the class after completing the course. They will be asked to make about half the number of presentations as graduate students.

In addition to the above, graduate students will be well trained to become proficient graduate instructors; will be well prepared for their future academic careers as teachers; and will teach mathematics effectively, not only passing on knowledge, but also enhancing students' critical thinking and analytical reasoning abilities.

There will be no tests. However, each student will make multiple presentations. The professors will critique the presentations for improvement. Students are not allowed to miss more than three classes.