

Math 8001 meets on Fridays at 12:20pm-1:10pm in Vincent 6. We will not meet during the first week of the semester; the first session will be on September 13, 2013.

**Instructors.** Bryan Mosher and Jonathan Rogness. Our contact information is given below; note that Rogness has a separate office (Vincent 431) listed on the department webpage, but is rarely there.

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Jonathan Rogness  
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Email is generally the best way to reach either of us. Please send any messages about the course to both of us, and include “8001” in the title to facilitate any email searches or filters.

**Course Webpage.** <http://www.math.umn.edu/~rogness/math8001/>

**Textbook.** None, although occasional readings will be assigned through handouts and other sources.

**Grades.** S/N. To receive a passing grade you are expected to: attend all class sessions; complete assigned readings before class begins; be an active participant during discussions throughout the semester; and complete the occasional assignments given in class. We will notify you if you are in danger of not passing the course, but you should always feel free to ask us about your status.

**Other Policies.** We will follow all University and College policies regarding academic honesty and other matters.

#### CLASS SCHEDULE

The following session schedule is tentative and may be updated throughout the semester.

**9/13/13: Organizational Meeting.** During this session we will talk about Math 8001 and discuss the early-semester issues which you have already encountered in your courses.

**9/20/13: Guiding Principles.** Teaching involves a broad range of issues from time management to use of technology and respecting one’s students. All of the topics here will come up throughout the semester, but this session provides a starting point for discussing our goals for teaching and how to achieve them.

**9/27/13: Writing Exams and Quizzes.** New teachers (and many veterans) routinely give assessments whose length and/or difficulty are off target. What goes into writing a good exam or quiz? What are the advantages and disadvantages to take-home assessments?

**10/4/13: Groupwork.** Many courses at the University and other schools make extensive use of groupwork. This week we will discuss the rationale behind this movement, and what goes into creating effective groupwork activities and leading groupwork sessions.

**10/11/13: Observing and Reflecting on Teaching.** We will discuss what we look for when observing teachers, and discuss how to interpret comments from students or other people who evaluate your instruction. After this session you will be paired together and asked to observe each other’s sections.

**10/18/13: When Things Go Wrong.** Teaching is full of potential frustrations, ranging from students who cheat on assignments to those who plead for an incomplete. On a smaller scale, what do you do if you realize that a lecture was ineffective and your students are lost? What if the whole class does poorly on an exam?

**10/25/13: Teaching with Technology.** Math teachers have many technological tools available, including non-math specific course management websites (like Moodle) to online homework systems (like Webwork). Technology can also be incorporated directly into lectures or discussion sections, but this requires careful consideration and preparation.

**11/1/13: How to Write and Deliver a Good Lecture.** Although many classes use groupwork and technology, lectures are still the bread and butter of mathematics teaching. Giving a lecture which is well organized, informative, and engaging is one of the most important skills you can develop.

**11/8/13: Designing a Course and Writing a Syllabus.** Most first time lecturers in our department teach in a course with a fixed textbook and list of sections to cover, but must still write their own syllabus. Later in your career you'll have opportunities to choose your own textbooks, create your own schedule, design your own grading scheme, and so on.

**11/15/13: Teaching a Summer Course.** Summer school classes are often the first courses our graduate students teach autonomously. The compressed schedule, with multiple hours of class time per day, creates logistical and pedagogical issues.

**11/22/13: How to Give a Good Math Talk.** Speaking in a department seminar is similar to giving a lecture in a class, but a talk for a more general audience—e.g. a colloquium, public lecture, or job talk—should be organized and presented differently.

**12/6/13: A Tour of Teaching Opportunities.** The department offers a wide variety of teaching experiences to graduate students as recitation leaders and more. During this session we will describe some of the options available to you in the future.