

Math 7999. COMMUNICATING MATHEMATICS

Spring 2004. PROJECT

At least half of the grade for this course will depend on performance on the major project, which will have two parts:

- (i) a talk; and
- (ii) a paper.

Each student will be responsible for finding a professorial faculty member to supervise the project. The topic for the project will be chosen in consultation with the advisor and must be submitted to James Oxley (oxleymath.lsu.edu) by February 17, 2004. The topic should be something mathematical that interests the student, and it is suggested that it be related to something that the student has learned about in class or in a reading course. For both the paper and the talk, the target audience will be typical first-year mathematics graduate students. The content of the talk should be covered in the paper, but it is expected that the paper will provide a more complete description of the subject matter than does the talk. Some more detailed guidelines of the talk and the paper are provided below.

The talk

This will be a 15-minute exposition of the subject and will be presented to an audience that includes the rest of the class. Overhead transparencies will be used and should be prepared carefully in advance. The talks will be scheduled for the end of the semester with the first presentations to begin on April 13. To mimic a conference format, the talks will be scheduled in 20-minute time slots, one following another. Students should aim to finish their talks within 15 minutes to allow time for questions at the end. Talks that run to 16 minutes will be stopped by the chair of the session since the next speaker must be given time to set up. The blackboard may be used in conjunction with transparencies but it is expected that the bulk of the presentation will be done using transparencies. Students should practice their talks in advance, perhaps having their advisors listen to these rehearsals. Students other than those doing the presenting will be expected to provide an attentive audience for the speakers. An abstract of the talk must be provided in $\text{T}_{\text{E}}\text{X}$ or $\text{L}_{\text{A}}\text{T}_{\text{E}}\text{X}$ no later than at the class one week before the scheduled date of presentation.

The paper

This will be a written exposition of the topic of the project. It should be between 6 and 10 pages in length and must be done in 12-point L^AT_EX in the format of the sample paper that will be distributed. The paper will be expected to be in clear, grammatically correct English. It should be mathematically self-contained but may assume the background of a typical second-semester mathematics graduate student. It should include appropriate definitions, lemmas, theorems, proofs, examples and counterexamples, together with references. Moreover, the topic should be carefully motivated. It is not expected that the paper will contain original work. Rather it should be an expository work designed to enlighten fellow students concerning an unfamiliar topic. If the paper does contain original work, then a clear indication should be given as to what parts are new. The paper should have a brief abstract and an introduction. A concluding section is also desirable. Otherwise, the format should be an accepted one for an expository or survey paper with the requirement that it must include some proofs. References should be presented in accordance with the format used in the sample article.

The advisor

It is expected that students will meet regularly with their advisors to discuss the preparation of both their papers and their talks. Students should invite their advisors to their talks.

Timetable

February 3: Names of advisors must be submitted.

February 17: Advisor-approved topics must be submitted.

March 16: Typed one-page outline of the project must be submitted. This should consist of a broad description of the topic and could list, in point-form if desired, some important subtopics, some section headings, or some key references.

April 13: Talks begin in class. Typed first draft of the paper must be submitted. Comments and corrections will be written on this first draft, so the closer the draft is to being final, the more useful the feedback will be.

May 4: Final form of papers must be submitted.