Math 300 (73) Foundations of Higher Mathematics
Spring 2015

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Objectives: Introduction to fundamental mathematical ideas—such as sets, functions, equivalence relations, and cardinal numbers—and basic techniques of writing proofs.

Textbook: *An Introduction to Abstract Mathematics*, Bond and Keane.

How the class works: There are very few lectures! Instead, students lecture on or work out the theorems and proofs and most of the questions are asked by students. Class participation, including in-class presentations and active participation in the presentations of others, is key in learning the material. **Participation requires attendance.**

Website: Except for grades, all course material (including homework assignments) will be available through a website accessible through the instructor's homepage.

Reading Assignments: There is a reading assignment before each class. As you read through the section, you are expected to memorize the definitions and work out the examples and exercises using pen and paper. You are welcome to make notes on the reading and refer to them during class. Class discussions are based on this material and you should expect to be called on to explain your results. Bring your notes and the textbook to each class.

Homework: Homework plays a key role in learning the material and so is weighted heavily in the grading. There are weekly homework assignments posted on the course webpage, generally assigned on Friday and collected the following Friday at the beginning of class. Late

or illegible homework is not accepted. You are encouraged to work with others on the homework, but must write up solutions individually. Please list the names of any students with whom you worked at the top of your paper. Solutions should be concise and neat.

Presentations: Each student is expected to give three in-class presentations, chosen from topics in the text. Each student is expected to listen to the other presentations and participate, by making clarifying suggestions and asking questions. Students may be called on to answer questions, even when not giving the presentation.

Class Participation: Students are expected to participate in class discussions, ask questions during other students' presentations, and come prepared for class discussions. Participation is weighted in the grading.

Section: Section is for discussion of homework and discussion of presentations. You are responsible for all material covered in section and attendance is required. Sometimes section will be used for regular class, with section moved later in the week.

Exams: There is one in-class midterm on Friday, May 1. The final exam is on Monday, June 8, 9-11 am.

There are no make-up exams.

Grading: Your grade is determined by:
Homework 20%
Presentations 10% $\times$ 3
Participation 10%
Midterm 15%
Final 25%

Grading of all assignments is based on a combination of content and form. Your work must demonstrate your mastery of the mathematical ideas required and must be clearly expressed; proper usage of both mathematics and English is required. Class participation is part of your grade and so on-time class attendance is crucial. Failure to attend class and participate adversely affects your grade.

Accessibility: Any student requesting accommodations related to a disability or other condition is required to register with AccessibleNU (847-467-5530) and provide professors with an accommodation notification from AccessibleNU, preferably within the first two weeks of class. All information will remain confidential.