Intro to Math Reasoning
Math 20630

TIME AND PLACE (LECTURES): MWF 02:00 PM-02:50 PM, Hayes Healy Center 129
E-MAIL: cpolini@nd.edu
PHONE: 631-8849
OFFICE HOURS: MWF 1:00–1:50 in Hurley 272 or by appointment
TEXTBOOK: Mathematical Thinking: Problem-Solving and Proofs (2nd Edition) by D'Angelo and West.

Course Outline

The goal of this course is to teach students how to write proofs well. During the semester students will be exposed to many interesting mathematical ideas and concepts that will be of fundamental importance for abstract algebras and real analysis.

The plan is to cover Chapters 1–8, 10, 12–14 from the textbook. The material covered will be adjusted during the semester. The webpage http://www.nd.edu/~cpolini/math20630 will provide the homework list and the schedule (the homework list and the schedule will be updated after each class).

Grading

The midterms’ dates are tentative. The course grade will be determined using the formula:

Midterms 25% each, Homework and Quizzes 20 %, Final exam, 30 %.

1. Homework and Quizzes: Homework assignments will be collected weekly on Wednesdays. Often on Friday you will have a quiz on the material covered on class and on the homework assignments.

2. Midterm: Friday February 21 and Friday April 11 [in class].


Exams

Exams may be made up only with an excused absence from the Assistant Vice President for Residence Life.

Homework Assignments

Students are expected to exercise care in their writing and reasoning. I will assign weekly problem sets (6 problems for set). To receive full credit, homework solutions must be written up clearly and logically, with appropriate explanations of what you are doing. Late homework will not be accepted. If you miss a class it is still your responsibility to complete the homework on time.
**Reading**

Each class I will assign reading material that we will not cover in class. You are supposed to study such material very carefully and if need it to ask questions about it the following class period.

**Absences**

Presence in class is strongly encouraged.

**My Expectations**

Our learning agenda will not only be driven by my presentations, but also by your efforts to come to grips with the material, the problem assignments and the questions that these will generate. Given that learning is the result of doing rather than observing, we will often discuss some homework problems in class. A word of warning: this class is hard, the homework sets are difficult and my tests are challenging. It takes time to learn how to write proofs well.

**University Honor Code**

The University of Notre Dame takes its Honor Code extremely seriously and so do I. It will be in effect throughout the semester. You can collaborate on the homework assignments but copying in any form or submitting work done by others as your own is a violation of the Honor Code.