FOUNDATIONS FOR HIGHER MATHEMATICS 310-310W

Having fun in a straitjacket

- **Textbook**: How to Prove It, *A structured Approach* second edition. Author: Daniel J. Velleman. (See special instructions for Math 310W below.)

- **Class Times**: Classes are MWF 10-11AM in Duncker 101 for Math 310 and Monday 11AM-12 noon, Lopata 201 for Math 310W.

- **Instructor**: Mohan Kumar, Room 111 A, Cupples I. Phone: 5-6728; email: kumar at wustl dot edu and URL:

  http://www.math.wustl.edu/~kumar/courses/310-2012/foundations.html

- **Office Hours**: Monday 3-4pm and Thursday 1-2pm or by appointment.

- **Homework**: weekly. I will try to post them during the weekend and they are due the Monday a week from then.

- **Answers to Homework**: If there is sufficient interest or if I feel that a large number of students have done inadequately in an assignment, I may post selected answers to the assignments.

- **Exams**: There will be two midterms and a final. The first midterm will be on Friday, September 28 and the second will be on Friday, November 2, (in class, one hour) and the final is on Monday 17, December 10.30-12.30.

- **Grading**: 85-100%-A; 70-84%-B; 50-69%-C; less than 50% will be an F. Homework will count for 35% of the final grade, first midterm for 10%, second midterm for 20% and the final for 35%.

- **Plan of the course**: We plan to cover the first six chapters of the book (may be with some back and forth) and possibly the seventh. In the last few weeks, I plan to do construction of the number system. I will post my notes for this on the web.

- **310W**: This is meant for people in 310W, though others might find it useful and all are welcome to attend. In 310W, all submitted work is expected to be done in the math typesetting system known as TEXor LATEX. I will give an introduction to this for a couple of weeks. Those of you who use a windows system can download the program free from 'Miktex'. (Be warned that it is a fairly large program and might take some time to download). This comes bundled with a plain text editor, but if you prefer another one (any ASCII editor will do), you may use it instead. You can not use MSword or similar programs. It will be good to have some basic book on TEX. For example, *More Math into* LATEX, by G. Grätzer. There are other programs built on TEX, like LyX, which tries to make it closer to a wysiwyg program, but I will not go into these in the class.

  The basic structure is as follows. We will have two short and one long writing projects. The first one will be just to get you to have a feel for writing in TEX. The second one will be to write a longer piece with enough Mathematics and English (for example, a review of an appropriate mathematics book) and we will discuss it afterwards and you will incorporate the comments made and resubmit. The third one will involve more serious research, getting you familiar with finding references etc. and will have some serious mathematical content. This too will be discussed and you will return them to me after making the necessary corrections.