SYLLABUS

Math 185 – Fall 2011

- Instructor: Michael Zieve
- Class web page: http://www.math.lsa.umich.edu/∼zieve/math185.html
- Text: *Calculus* by Michael Spivak
- Contacting the instructor:
    - Email: zieve@umich.edu
    - Office: 3835 East Hall
    - Office Hours: TBD
    - Office Phone: 615–3650

Course Content: This course will probably be unlike anything you have seen before. Its main goal is to teach you how and why to make mathematically rigorous explanations (i.e., *proofs*). This requires developing completely precise thinking and writing, which are skills that will benefit you for years to come, no matter what occupation you pursue. The setting in which we will do this is calculus. If you have seen calculus before, you probably learned a batch of recipes that could be used to do certain types of computations. In this course our focus is on *why* those recipes work, and what the answers really mean. Specifically, we will cover most of Parts II and III of the textbook.

Student Responsibilities: There will be weekly homework, in addition to two midterms and the final exam. No electronic devices may be used during the tests, so it would be wise to do the homework problems without the aid of such devices. Both the tests and the homework problems will emphasize correct reasoning; a correct numerical answer without adequate justification will receive little credit. You should read the section of the book to be covered in a given day's class *before* class. I strongly encourage you to work with each other on homework problems, but each person needs to write up the solutions on his/her own and hand them in.

Your grade:

20% Homework
25% Midterm #1
25% Midterm #2
30% Final

Weekly problem sessions and extra math: We'll try to find a time that works best for people today. More about this will be announced soon.

First homework (Due Tuesday September 13th): In general homework will be posted on the website. The first homework assignment is listed below.

- From Spivak Chapter 3. Do # 2, 3, 8, 9, 12, 13, 17, 21
- Write down a bijective function with domain $\mathbb{Z}$ and codomain $\mathbb{N}$.