Syllabus for Math 296
Winter Term 2011
MTWF 1–2 PM, East Hall 4088

Instructor: Professor Karen E. Smith
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Office hours: Monday and Wednesday after class, and Friday at noon. Plus anytime: send an email.

Course Assistant: Ruthi Hortsch;
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Office Hours: TBA
Discussion Session: TBA

Textbooks: Spivak, *Calculus*, and Kunze and Hoffman, *Linear Algebra*

Goal: This is a continuation of Math 295. We will continue in Spivak for the first month or so, covering Taylor series, uniform convergence, and the complex numbers. We will then move onto linear algebra and switch texts. There will be a mixture of general theory valid over any field, and the more concrete theory of normed spaces over \( \mathbb{R} \) and \( \mathbb{C} \). Emphasis will be on understanding conceptually and geometrically, as well as understanding the intrinsic meaning of various explicit methods of computation. As in 295, the emphasis is on deeply understanding the theory and intrinsic meaning of the mathematics, and on rigorously proving everything, rather than on computations or applications. On the other hand, both calculus and linear algebra are widely used throughout mathematics, science and engineering, so the tools you will learn here can be broadly used in more applied settings in future courses (anything requiring 217 for a prereq, for example).

Grade: There will be weekly quizzes/writing assignments worth 10%, weekly homework counting 30%, two midterm exams counting 15% each, and a final counting 30%. The exam problems will be similar to homework problems; some may be distributed several days before the actual written exam.

Homework: Homework will be assigned every Friday and will be due at the beginning of class on the following Friday. The two lowest homework grades are dropped. The homework is by far the most important part of this course. You are encouraged to discuss the problems with other students, as well as the course assistant, but you must write up your solutions independently. In addition, please generously cite all sources, including your classmates. Warning: if you are caught plagiarizing, you will fail.

To facilitate the grading of homeworks: do the problems in order, write on only one side of the paper, and use standard sized paper. Late homework will not be accepted.

Exams: There are no alternate or makeup exams. The final exam is scheduled for THURSDAY APRIL 21 at 4 pm.

Quizzes/Writing: Periodic quizzes will be short (10 minutes) and may be unannounced. The point is to make sure students immediately learn all new definitions precisely. Periodic writing assignments will check that students are able to synthesize material into a bigger picture, and can explain mathematics clearly and precisely.