Mathematics 25a - Fall 2001
Honors Advanced Calculus and Linear Algebra

Time and Place: MWF 10-11, Science Center E.

Instructor: Kalle Karu.
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Office hours: MWF 11-12. You are also welcome to stop by any time I am in my office.

Textbook: *Vector Calculus, Linear Algebra, and Differential Forms* by John Hubbard and Barbara Hubbard.

Course description. The goal of Math 25a is to give a rigorous treatment of linear algebra and multivariable calculus. The topics covered include vector spaces, metric spaces, metric topology, differentiaion and integration.

Sections. You should each attend at least one weekly problem session. The exact time and location of the sessions will be arranged in class.

Homework. Weekly homework assignments will be handed out each Friday, and they are due the following Friday. Homeworks may be turned in to the course mailbox outside the math office at 325 Science Center any time before 4:30 PM on Friday. They will be returned hopefully by the end of the following week. Late homework will be accepted only in exceptional circumstances and with prior approval.

Exams and Grading. We will have two midterm exams, on Oct 10 and Nov 14, during regular class hours. The final exam will be held on Friday, Jan 18.

Final Grade. Your final grade will be based on your performance on homework (30%), first midterm (15%), second midterm (20%) and final exam (35%). If your final exam score is much higher than the midterms, I may assign more weight to it when determining your grade. However, a good final exam score will not make up for missing homeworks.

Collaboration. You are strongly encouraged to discuss homework problems with your fellow students, course assistants, or me. However, you have to write up your solutions by yourself. Collaborating on exams is not permitted.

Supplementary textbooks. Math 25 covers a wide range of topics: linear algebra and multivariable calculus are the main ones, but we also study topological spaces, metric spaces, real analysis and other topics. In case you want to learn more about these subjects than is covered in the textbook, here is a sample of excellent books:

Linear algebra: *Linear algebra Done Right* by S. Axler.

Analysis: *Principles of Mathematical analysis* by W. Rudin.

Topology: *Basic Topology* by M. A. Armstrong.