Math 2406B (Fall 08) – Abstract Vector Spaces

Instructor : Prasad Tetali, office: Skiles 234, ph: 404-894-9238
Webpage: http://www.math.gatech.edu/∼tetali   **email**: tetali@math.gatech.edu
Office Hours: Mon. Wed. 3:00-4:30pm (tentative) plus by appointment

Course Prerequisite: Math 1502 (Calc II), Math 1512 (Honors Calc II), Math 1522 (Linear Algebra for Calculus), or an equivalent to one of these.

Intended Audience. Math and Discrete Math majors; Math minors; students intending to take proof-based upper-level math courses, such as Abstract Algebra I, Intro to Number Theory, or Analysis I.

Course Textbook: **Linear Algebra by Tom M. Apostol** (John Wiley & Sons, 1997.) Classroom: Skiles 256, Time: MWF 12-1pm

Syllabus: Material in Chapters 1 – 7 of the textbook:
- Vector Algebra
- Applications of Vector Algebra to Analytic Geometry
- Linear Spaces (aka Abstract Vector Spaces)
- Linear Transformations and Matrices
- Determinants (Axiomatic treatment)
- Eigenvalues and Eigenvectors
- Eigenvalues of Operators Acting on Euclidean Spaces

Course Objective. The course is a *proof-based* study (of an intermediate level) of Linear Algebra. And as such the objective is two fold: to develop mathematical thinking plus reasoning, and to learn a decent amount of linear algebra.

General grading policy : Homeworks 20%,   Tests 40%,   Final exam 40%
Test 1: **Sept. 15th** (Mon.)   Test 2: **Oct. 24th** (Fri.)
Final exam: **December 10th** (Wed.) 8:00–10:50 am

Cutoffs for A, B, C, D: 90%, 80%, 70%, 60%; and below 50% is an F.

Additional Tips: No make-up tests will be allowed. Closed-book, closed-notes, in-class tests. One cheat-sheet will be allowed.

Homeworks will be assigned, collected and graded.

You are strongly advised to solve all the homework problems; Late submission of HWs is discouraged with a penalty of 20%.

Please write LEGIBLY and STAPLE your homework sheets.

Please feel free to ask questions at any time: before, after or during the class.

I check my email fairly regularly; happy to answer questions.