**136.130 Vector Geometry and Linear Algebra**

September - December 2003

TEXT:    Elementary Linear Algebra (Eighth Edition) by Anton

COURSE OUTLINE:

Systems of linear equations and matrices: Gaussian elimination, matrix operations, inverses, elementary matrices, and classes of matrices.

Determinants:  evaluating by row reduction, properties, co-factor expansion; Cramer's rule.

Vectors and geometry in the plane $R^2$ and in the space $R^3$: norm of a vector, vector operations, dot product, cross product, lines and planes in $R^3$, Euclidean n-space.

General vector spaces:  real vector spaces, subspaces, linear independence, basis and dimension, row and column spaces, null space.

MIDTERM TEST:  There will be a one-hour midterm test, which will be held on Monday, October 20, 2003, 5:30-6:30 p.m.  No make-ups or deferrals are permitted except for reasons the University normally finds acceptable for absence from a final exam.

CLASSES AND TUTORIALS:  Students should attend the lectures and must register in and attend one of the tutorial sections associated with their class section -NOT with some other class section.  During the lectures your instructor will explain the most important parts of the material in the text and work through related examples.  However, in order to learn the course thoroughly you will have to read and work through the text carefully.  Do not expect to learn linear algebra either from your instructor alone or from the textbook alone.  During the tutorial periods a teaching assistant will be available to answer your questions and work examples.  Five short quizzes will be given in the tutorial periods.  The tutorials begin on Monday, September 15, 2003.

GRADING:  There will be a two-hour final exam during the regular exam period in December.  Your final grade will be based on 10% tutorial tests (best of 4 out of 5, no deferrals allowed for any reason), 30% midterm, and 60% final.

The Voluntary Withdrawal deadline is Wednesday, November 12, 2003.

EXERCISES:  In order to pass 136:130 you will have to do a great deal of practice.  Every student should work through the assigned problems in the exercises.

CALCULATORS:  Calculators will not be permitted for any of the quizzes, tests or exams

Students who wish additional practice may use any linear algebra textbook.

Copies of old final exams can be found on the web; students are warned that the style and the content of the course does change somewhat from year to year and that there may be changes in both the form and content of the final exam.

Plagiarism, cheating and impersonation at exams are serious offences subject to disciplinary measures at the University that may lead to a failing grade, suspension or expulsion.  Please read pages 28 - 30 of the 2003-2004 Undergraduate  University Calendar.