Notes on Exam 3, Math 544, Fall 2005

1. Exam 3 is Tuesday, October 25. It covers sections 3.2, 3.3, 3.4, 3.5, and 3.6.

2. Be able to define "column space", "null space", "basis", "dimension", "orthogonal set".

3. Be able to state and use four theorems about dimension.

4. Be able to state and use the Non-singular Matrix Theorem. (I have also called this the Invertible Matrix Theorem.) This result consists of a huge number of equivalent statements.

5. The material on the old exams which is covered on your exam 3:
   (a) Exam 2's:
   97: 3, 4, 5, 6, 7, 8, 9, 10.
   98: 3, 4, 7, 8, 10.
   01: 8, 9.
   02: 6.
   Spring 03: 5, 6, 7, 8.
   Summer 03: 3.
   04: 5, 10.
   Summer 05: 4, 7.
   Fall 05: 2, 3, 4, 5, 6, 7, 9, 10.
   (b) Exam 3's:
   97: 1, 2, 3, 4, 5, 6, 7, 8.
   98: 2, 3, 4, 5, 6, 7, 8, 9.
   01: 3, 4, 8, 9.
   02: 1, 2, 3, 7, 8, 9, 10.
   Spring 03: 1, 2, 3, 4 ,5, 6, 7, 8, 9.
   Summer 03: 2, 4, 5, 6, 7, 8, 9.
   04: 1, 3, 4, 7, 8, 9,
   Summer 05: 1, 2, 3, 4, 5, 6, 7.
   (c) Exam 4's:
   97: 10.
   98: 1, 2, 4, 5, 6, 7.
   01: 1, 2, 4, 5, 8, 9, 10.
   02: 2, 8, 9.
   Spring 03: 8.
   Summer 03: 1, 2, 5, 6, 7, 9.
   04: 1, 6.
   Summer 05: 1, 5.
   (d) Final Exams:
   97: 1, 3, 6, 7, 8 (Notice that A and b for 6, 7, and 8 are given above problem 6.), 13, 15, 16, 17.

98: 1, 7, 9, 11, 14, 17.
01: 1, 7, 8, 9, 10 abcd, 13.
02: 1, 8, 9, 11, 13, 16.
Spring 03: 12, 18, 20.
Summer 03: 1, 2, 3, 7, 10, 12, 13, 14, 17 defgh,
04: 1 cdefg, 2, 6, 12, 13, 14.
Summer 05: 1 cdefg, 2, 6, 8, 11.