Notes on Exam 1, Math 544, Summer 2007

1. Exam 1 covers 1.1–1.3, 1.5, 1.6 and 1.7.

2. Be able to define "linearly independent" and "non-singular".

3. Be able to state the Theorem about the linear dependence of m vectors in $\mathbb{R}^n$, when $n < m$. (I call this the "Short/Fat Theorem".)

4. Be able to state a few conditions that are equivalent to: "the matrix A is non-singular."

5. The material on the old exams which is covered on your exam 1:
   (a) Exam 1's:
   97: 1, 2, 3, 4, 5, 7, 8, 9, 10.
   98: 1, 2, 3, 4, 5, 6, 7, 8, 9.
   01: 1, 2, 3, 4, 5, 6, 7.
   02: 1, 2, 3, 4, 6, 8, 10.
   spring 03: 1, 2, 3, 5, 7, 8, 9, 10.
   summer 03: 1, 2, 3, 4, 5, 6, 7, 8, 9.
   04: 1, 2, 3, 4, 5.
   summer 05: all
   fall 05: all
   summer 06: 1, 2, 4, 6, 7.
   fall 06: all
   (b) Exam 2's:
   97: 1, 2.
   98: 1,2, 4, 5, 6, 10.
   01: 1, 2, 7, 8, 9, 10.
   02: 1, 7.
   spring 03: 1, 2, 3 4a, 4b, 4c, 6.
   summer 03: 1, 2, 3, 4, 5, 7, 8, 9.
   04: 1, 2, 3, 4, 6, 7.
   summer 05: 1, 2, 3, 4, 6, 7.
   fall 05: 1, 7, 8.
   summer 06: 9.

fall 06: 2, 8.

(c) Exam 3's:

01: 4, 10.

02: 6.

summer 03: 1.

(d) Final Exams:

97: 9 (The matrices A and b are given before problem 6.), 14, 15, 16.

98: 4, 5, 6.

01: 4, 9b, 9e, 10e, 10f.

02: 3, 8 (Solve $Ax = b$ and then stop.), 15.

spring 03: 10, 11, 16, 17, 19.

summer 03: 11, 16, 17abc.

04: 1abc, 4.

summer 05: 1ab.

fall 05: 1ab, 6, 16.

summer 06: 2, 3abc.

fall 06: 1, 6a.