Notes on Exam 2, Math 544, Spring, 2016.

1. Exam 1 covers 1.1–1.3, 1.5–1.7, 1.9, and 3.2.

2. Be able to define "linearly independent", "non-singular", "invertible", and "subspace of $\mathbb{R}^n$".

3. Be able to state the Theorem about the linear dependence of p vectors in $\mathbb{R}^m$, when $m < p$. (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." (I call this the "Non-singular matrix theorem, version 2." On Exam 4, we will have a **total of 4** statements.)

5. The material on the old exams which is covered on your exam 2:
   (a) Exam 1's:
        97: 1, 2, 3, 4, 5, 6, 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, 6, 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, 3, 4, 5, 6, 7.
        fall 06: all
        summer 07: 1, 2, 3, 4, 5, 6, 7.
        fall 09: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.
        spring 11: 1, 2, 3, 4, 5, 6, 7, 8, 9.
        summer 12: all
        spring 16: all
   (b) Exam 2's:
        97: 1, 2, 4, 5, 6, 8.
        98: 1, 2, 4, 5, 6, 7, 8, 9, 10.
        01: 2, 7, 8, 9, 10.

02: 1, 7.
spring 03: 1, 2, 3, 4a, 4b, 4c, 5, 6, 7, 8.
summer 03: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.
04: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.
summer 05: 1, 2, 4, 5, 6, 7.
fall 05: 1, 2, 3, 4, 5, 7, 8.
summer 06: 8, 9.
fall 06: 2, 3, 4, 5, 6, 7, 8.
summer 07: 1, 2, 4, 5, 6, 7, 8.
fall 09: 5, 6.
spring 11: 1, 2, 3, 4, 5, 6, 7, 8, 9.
summer 12: 1, 2, 3, 4, 5, 6, 7, 8.

(c) Exam 3's:
98: 1, 6, 7, 9.
01: 3, 4, 5, 10.
02: 3, 6.
spring 03: 8.
summer 03: 1, 7, 8.
summer 04: 4.
summer 05: 6, 7.
fall 05: 9, 10.
fall 06: 1, 3, 4.
spring 11: 3, 5, 6.

(d) Exam 4's:
98: 4, 5, 7.
01: 4, 8.
fall 05: 10.

(e) Final Exams:
97: 9 (The matrices A and b are given before problem 6.), 14, 15, 16.
98: 2, 4, 5, 6, 12, 14.
01: 1, 4, 10e, 10f, 13.
02: 1, 3, 8 (Solve $Ax = b$ and then stop.), 15.
spring 03: 10, 11, 16, 17, 19.
summer 03: 11, 16, 17abc.
04: 1ab, 4, 8.
summer 05: 1ab, 5.

fall 05: 1ab, 6, 7, 16.
summer 06: 2, 3abc, 7.
fall 06: 1, 6a.
summer 07: 2.
fall 09: 1, 2, 6, 7.
spring 11: 1, 2.
summer 12: 7, 8.