**Information for Midterm 2**

1- The test will be held during the class time on Monday, 05/19. Please go to the following room at our usual lecture time on Monday:

**If your last name starts with letter A-Q: SOLIS 107**

**If your last name starts with letter R-Z: SOLIS 104**

2- You must bring a Blue Book to the exam. Blue books can be purchased at a variety of locations around campus, including the bookstore.

3- Please bring your UCSD student ID to the exam and expect it will be checked.

4- You may bring one 8.5”*11” sheet of handwritten notes (written on both sides) to the exam.

5- No calculators (or other electronic devices)!!

6- You must know your discussion section ID:

**Sebastian Ahmed-Garay**

  o A01, Tu 2:00p - 2:50p, CENTR 217A
  o A02, Tu 3:00p - 3:50p, CENTR 217A

**Samuel Lind**

  o A03, Tu 7:00p - 7:50p, APM 2301
  o A04, Tu 8:00p - 8:50p, APM 2301

**Daniel Smith**

  o A05, Tu 6:00p - 6:50p, WLH 2208
  o A06, Tu 7:00p - 7:50p, WLH 2208
  o A07, Tu 12:00p - 12:50p, WLH 2206
  o A08, Tu 1:00p - 1:50p, WLH 2206
If you attend a different section from the one in which you are enrolled, specify which is which on your blue book. For example you may write “I am enrolled in A03 but I attend A07”.

Topics

The exam covers sections 2.1-2.3, 4.1-4.6, 3.1, 3.2

In particular, make sure you are familiar with the following topics:

1- The inverse of a matrix: its properties and how to calculate it.

2- The invertible matrix theorem.

3- Subspaces: know the definition. Know how to check whether a subset $H$ of a vector space $V$ is a *subspace* of $V$.

4- Linearly independent set, spanning set, basis, dimension. The spanning set theorem (page 210), the basis theorem (page227)

5- The null space, column space and row space of a matrix: know what they are; and, given a matrix $A$, know how to find a basis for Nul $A$, Col $A$, and Row $A$.

6- The unique representation theorem (page 216), coordinates of a vector relative to a given basis.

7- The rank theorem.

8- Determinants: properties and calculation by cofactor expansion.

9- Effect of row operations on the determinant.

Note that the newer material builds on the concepts we learned earlier in the quarter. You will be expected to understand the material we covered earlier in the class (e.g. row reduction) in addition to the above topics.

Every effort is made to make the exam questions clear, correct, and straightforward. However, minor errors are sometimes detected during the exam. Should this occur, the appropriate correction will be written on the board.