1. Test 2 is on Friday, November 5. It covers the determinants handout, Section 4.4, 6.1, 6.3, 6.4, & 7.1-6. However, some subsections were skipped.

   4.4: Fixed points, Eigenvalues Analysis of 2x2 matrices, Eigenvalue analysis of 2x2 symmetric matrices; Expressions for determinant and trace in terms of eigenvalues.

   6.1: Reflections about lines through the origin, Orthogonal Projections onto lines through the origin.

   6.4: Compositions of three or more linear transformations, Factoring linear operator into compositions, Geometric properties of invertable..., Image of the unit square.

   7.4: Symmetric rank 1 matrices.

   7.5: Matrices of the form A^TA and AA^T.

   7.6: A column-row factorization, Column-row expansion.

2. You may use a scientific calculator, but not a graphing or programmable calculator. However, you do not need a calculator for any of the problems.

3. Anything we covered in class is fair game for the test. The most basic material includes: computing determinants, including using the properties of row operations; eigenvalues, eigenvectors and eigenspaces; linear transformations, including rotations; bases for a vector space; and the fundamental spaces of a matrix.

4. There are two proofs (together worth 15% of your grade). They will be taken from the following list.

   - 4.4: Be able to derive equation (5) on page 212.
   - 4.4: P1
   - Theorem 6.3.2 (page 297)
   - Theorem 6.3.11 (page 301)
   - 7.2: P4 (see solution webpage)
   - Theorem 7.3.3 (page 343)