The exam covers sections 12.3-12.9, and 13.1-13.3. You will NOT need a calculator for this exam. You can bring one 8.5x11 inch sheet of paper of notes (on both sides, if you want) to use as a reference. No electronics of any sort allowed on the exam.

**Topics**

- Functions of 2 (or more) variables
  - Continuity
  - Limits
  - Partial Derivatives
  - Gradient
  - Directional Derivatives
  - Tangent Planes
  - Chain Rules
  - Differentials
  - Maxima and minima
  - Lagrange Multipliers
- Double integrals
  - over rectangular regions
  - over non-rectangular regions

**Review Questions to do for practice:**

Chapter 12 Review (pg 672-673)
- Concepts Test Problems #2, 4, 6, 7, 8, 9, 12, 13, 14, 15
- Sample Test Problems #3-21 all, 23, 25, 26, 27, 28

Chapter 13 Review (pg 728-729)
- Concepts Test Problems #1-5 all
- Sample Test Problems #1, 2, 3, 5, 6, 10