The exam covers sections 11.9, and 12.1-12.8. 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**

- Cylindrical/Spherical coordinates and conversions
- Functions of 2 (or more) variables
  - Level curves
  - Evaluating
  - Domain
  - Continuity
  - Limits
  - Partial Derivatives
  - Gradient
  - Directional Derivatives
  - Tangent Planes
  - Chain Rule
  - Differentials
  - Maxima and minima

**Review Questions to do for practice:**

**Chapter 11 Review (pg 614-615)**
- Concepts Test Problems #55, 57
- Sample Test Problems #39-42 all

**Chapter 12 Review (pg 672-673)**
- Concepts Test Problems #1, 2, 4, 5, 7, 8, 14, 15
- Sample Test Problems #1-21 all, 23, 26, 27