This exam covers:

- Optimization: finding and classifying critical points, the Extreme Value Theorem, using Lagrange multipliers to find global maxima and minima subject to a constraint (Ch 15)
- Multiple integrals: double integrals in Cartesian and polar coordinates, triple integrals in Cartesian, cylindrical, and spherical coordinates, changing coordinates in a multiple integral using the Jacobian (Ch 16, S 21.2)
- Parametrizing curves and surfaces (S 17.1, S 21.1)
- Vector fields and line integrals (S 17.3, S 18.1-2)

Note: The emphasis will be on topics not already covered on quizzes.

Format of the exam:

- Most problems will be similar to homework problems.
- Calculators will not be permitted; numerical computations will be amenable to hand calculation, at least in my opinion.

Exercises for review are listed below. Your assignment for D Rev consists of the exercises in bold.

- Ch 15 Review: 1-4, 11-19, **20**
- Ch 16 Review: 1-13, **14**, 15, 16, 21, 24, 25-27, 38, 40, **41**, 59-62, **69**, **70**
- Ch 17 Review: 1-10, **11**, 23-29, 30, 31, 34, 35
- Ch 18 Review: 7-11, **12**
- Ch 21 Review: 1, 2, 8, **9**, **10**, 12, 15, 16, **17**, 18