

Calculus D – Final Exam

General Info

- 2 parts given on 2 days
- 6 questions each part (12 total), 5 points each
- 2 possible bonus points
- 60 total points converted to 75 test points in grade
- Half of test is Chapter 16
- Questions mixed up on both parts
- Some problems are set-up only. No calculators.
- Whole period each day.
- All regular test policies and procedures hold.
- Be here both days. No time for make-up tests.

Study Suggestions

- Review class notes
- Create “notes on your notes”
- Review old homework
- Re-do some old homework problems
- Review textbook
- Use Course Outline (start with tough stuff)
- Ch. 16 Quiz and Other Quizzes
- Study Group: Friends you *will study* with
- Extra Help: In class & after school
- Do whatever works for you!

Final Exam Study Questions

Below are a few general questions for you to think about as you study Chapters 12 through 16. This is NOT a complete list, just a few things to help you get started.

- 1) What are the standard equations for the basic surfaces we have studied (e.g., planes, cylinders, quadric surfaces)?
- 2) What are the formulas we learned that use dot products and cross products? What are the geometric applications?
- 3) How do we describe curves in space? How do we find their properties, such as components of acceleration and arc length?
- 4) What is the difference between ∇f and ∇F ? How is each used for which types of problems? What is the difference between a gradient and a directional derivative?
- 5) How do we use the Chain Rule and solve optimization and related rates problems with multivariable calculus?
- 6) How do we set up double integrals to find area and volume? How do we set up triple integrals to find volume and mass? In polar, cylindrical, and spherical coordinates?
- 7) What is the difference between scalar and vector line integrals and surface integrals?
- 8) What are the differences and similarities among the Fundamental Theorem of Line Integrals, Green’s Theorem, the Divergence Theorem, and Stokes’s Theorem?