

Final Exam – Information

TIME: Monday, May 9, 5:05-7:05pm.

PLACE: Ingraham B10.

Be sure to bring a valid UW Photo ID to the exam!

WHAT'S ON THE EXAM?

- All material covered in the course and the assignments.
- All material covered in Sections 13.1, 13.3-4, 14.1-8, 14.10, 15.1-15.6, 16.1-16.8 of the textbook
- You should be able to state the important definitions and theorems.
- Besides the topics listed on the previous information sheets, you should be able to solve the following types of problems (not an extensive list!):
 - Finding the area, moments, center of mass of in various cases (three dimensional solid, wire or coil, thin shell)
 - Computing triple integrals using cylindrical and spherical coordinates
 - Problems related to evaluating a line integral on a given curve
 - Computing line integrals related to vector fields (work done over a curve, flow integral, circulation, flux across a closed curve)
 - Problems related to path independence of work or flow integrals (checking if a vector field is conservative or not, finding a potential function for a conservative vector field, finding the work or flow integral in a conservative vector field)
 - Applications of Green's theorem for line integrals in the plane
 - Computing the divergence and curl of vector fields
 - Finding the surface area or surface integral for a level surface
 - Finding the flux of a vector field across an oriented surface
 - Finding the parametrized description of surfaces and computing surface integrals using that parametrization
 - Applications of Stokes' theorem and the divergence theorem.

A BIT OF ADVICE: When you are writing down the solution for a problem make it clear what you are doing. If your solution has several parts, it helps if you give a brief outline of your steps at the beginning.