

UPDATED GENERAL INFORMATION — NOVEMBER 3, 2009

Here are some comments regarding the second in-class examination, scheduled for **Monday, November 9**.

The exam will cover Sections 5.5 – 5.6 and 6.1 – 6.3 of the text, and it will consist of four problems. These will be close or identical to assigned problems from the text or problems in the supplementary exercises (files listing and describing these, and also their solutions, are in the course directory). Unlike the first examination, this time most problems will require the computation as well as the setting up of the relevant integrals. However, the integral computations will be relatively simple, requiring only a handful of simple formulas for indefinite integrals.

This exam will include something on change of variables going beyond the polar coordinate problem in the previous exam (and possibly including something about spherical coordinates), and it will also test the ability to evaluate line integrals of both scalar valued functions and vector fields (the latter integrals of type $\int_{\Gamma} P dx + Q dy + (\text{maybe}) R dz$), the statement of Green's Theorem and the ability to use it in specific problems, the criteria for recognizing when a vector field over the **entire** coordinate plane or 3-space is a gradient, and the ability to find potential functions g for vector fields \mathbf{F} which are known to satisfy such criteria (in other words, find g such that $\nabla g = \mathbf{F}$). The ability to sketch simple curves and regions will probably be helpful for analyzing problems and finding answers.

There will be no proof-like derivations on this exam. However, unless indicated otherwise, the logical steps in solving problems should be shown to ensure the maximum possible credit; partial credit will be given for incorrect answers in some cases, depending upon the extent to which the work shown on the exam is valid.

No electronic computing devices will be necessary, and none will be permitted. Likewise, no open books or notes will be permitted.