After a review of some linear algebra from Math 346, we hope to cover the first five chapters.

Grading: There will be two (possibly three) in class tests and a final exam. The final counts 40% of the grade. You should be warned that there are no makeups. Instead the remaining work will simply be counted more heavily. Homework problems will be collected and graded for precision of explanation as well as for mathematical correctness. The cumulative results of the homeworks will be counted in the term grade with approximately the weight of one test.

Please attend regularly and be on time.

Office Hours: Tuesday, Thursday 9:30am-10:30
Other times by appointment.

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COURSE LEARNING OUTCOMES

The student is expected to acquire the skills which are presented in the text and demonstrated by the instructor in class. These skills include the following, with associated departmental learning outcomes (see below):

1. demonstrate an understanding of linear algebra and its relation to calculus  
g

2. state the definitions of basic terms in beginning analysis of multivariable differential and integral calculus and to use them in proofs  
a, e1, e2, g

3. describe and apply the concepts of line and surface integrals.  
e1, e2, g

4. state and prove: the Inverse and Implicit Function Theorems and Fubini’s Theorem.  
f

5. construct proofs of other theorems/established facts.  
e1, e2, g

6. state and prove Green’s Theorem. State Stoke’s Theorem and describe its use in vector analysis  
e1, e2, f

COURSE ASSESSMENT TOOLS

1. Two or three in-class tests.
2. Assessment of in class work and collected and graded homeworks.
3. Final exam.

DEPARTMENTAL LEARNING OUTCOMES

The mathematics department, in its varied courses, aims to teach students to

a. perform numeric and symbolic computations
b. construct and apply symbolic and graphical representations of functions
c. model real-life problems mathematically
d. use technology appropriately to analyze mathematical problems
e. state (e1) and apply (e2) mathematical definitions and theorems
f. prove fundamental theorems
g. construct and present (generally in writing, but, occasionally, orally) a rigorous mathematical argument.