**Instructor:** Dr. Incognito  
Dr. Incognito@coastal.edu  
www2.coastal.edu/aincogni  
Office Hours: Wall 124H, (843) 349-2513  
MTWF 10:00-10:50 am  
MTW 3:00-4:00 pm  

**Prerequisite:** Math 161 with a grade of C or better.  

**Text:** Essential Calculus, 7E (early transcendentals), by Stewart.  

**Goal:** Successful students in this course will have the ability to work with surfaces in more than 2 dimensions, including applications dealing with differentiation and integration in multiple variables. By the end of this course the student will possess the ability to read a variety of mathematical problems, have the tools and ability to solve these problems, and develop the critical thinking skills necessary to determine if the outcome makes sense.  

**Materials Needed:** Textbook and calculator. You are responsible for knowing how to use your calculator.  

**Class Attendance:** Students are expected to attend every class session. Any absences—whether excused or not—will not absolve a student from the responsibility of completing assigned work promptly. Any student missing more than 6 days of class may receive an F in the course. Students must be present for all exams, or be able to provide documentation for their absences. Makeups for missed assignments and exams will be allowed only at the discretion of the instructor.  

**Homework:** Homework problems will be collected on a roughly weekly basis. Mathematical skills are gained by working problems. This makes completing the homework (and possibly working extra practice problems in addition to the homework) an essential part of successfully completing this course. I will drop the lowest homework grade in calculation of your final average.  

Homework that you turn in must be neat and easy to read. You are expected to show your work. (If it is not clear how or why you arrived at a particular result, you may receive no credit for a given problem.) Late homework will not be accepted.  

**Quizzes:** I will give short quizzes throughout the semester. I will drop the lowest quiz grade in calculation of your final average.  

**Exams:** There will be 3 tests and a cumulative final exam.
**Academic Conduct:** Exams and the final will be closed book/note, and you will work on them without the assistance of others.

For homework, you are encouraged to work with other students or to seek the assistance of a tutor or myself—but the work you turn in to me must be your own. You are also authorized to use any text/web/note-related resources you wish to help you complete homework and quizzes, short of direct copying of solutions from any source.

As a general rule, any graded assessments that you turn in should be the product of your own understanding of the material.

**Accommodations:** If you have documentation regarding a disability that will require accommodations in this course, please make an appointment to see me immediately.

**Grade Policy:** Your final grade will be broken down as follows: 50% in class exams, Quizzes 10%, Homework 10%, final exam 30%. Your final exam will replace your lowest test score if it helps you. Grades will be assigned in a manner no more stringent than the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
</tr>
<tr>
<td>B+</td>
<td>87-89%</td>
</tr>
<tr>
<td>B</td>
<td>80-86%</td>
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<tr>
<td>C+</td>
<td>77-79%</td>
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<tr>
<td>C</td>
<td>70-76%</td>
</tr>
<tr>
<td>D+</td>
<td>67-69%</td>
</tr>
<tr>
<td>D</td>
<td>60-66%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60%</td>
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</tbody>
</table>

**Important Dates:**

- Monday, January 11: MLK Day Holiday
- March 7–12: Spring Break
- Wednesday, March 23: Last day to drop with grade of “W”
- Friday, March 25: Student Holiday
- Wednesday, April 27: Last day of classes

**General Advice** Math is learned by doing. If you aren’t sure about a concept, the odd exercises in the text are always a good start for practice since the back of the book contains most of the answers.

Regular practice is key to doing well in this class: difficulties in math classes tend to snowball in general, since much of what we work on is prerequisite to other concepts. If you ever find yourself stuck on the material, try to deal with your difficulties as soon as possible—work practice problems, figure out what your specific issues are, talk to your classmates, ask questions, send me an e-mail or come see me during office hours etc.
Student Learning Outcomes: By the end of the semester, the successful student will:

- Visualize the three dimensional coordinate system.
- Identify vectors, and perform elementary vector arithmetic.
- Write equations of lines and planes in parametric and other forms. Recognize and form equations of cylinders and quadratic surfaces.
- Recognize and implement cylindrical and spherical coordinates.
- Compute limits, directional derivatives, gradient vectors, and partial derivatives of functions of several variables.
- Use derivatives to find extreme values of functions of several variables.
- Setup and solve definite and indefinite integrals of functions of several variables.
- Recognize vector fields, compute curl and divergence, and apply these ideas to physical problems.
- Demonstrate knowledge of classical theorems in multivariable calculus: Green’s Theorem, Stoke’s Theorem, and (time permitting) the Divergence Theorem.