

Math 152

Calculus II

Fall 2009

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**Hours:** 9:30-10:20 M-F, or by appointment.

**Texts:** *Calculus: Early Transcendentals, Sixth Edition*, James Stewart

**Prerequisites:** Math 151 (2.0 or above) or equivalent

**Topics:** The Fundamental Theorem of Calculus (5.1-5.5)

Applications of Integration (6.1-6.3, 6.5)

Techniques of Integration (7.1-7.2, 7.4-7.6)

Approximate Integration (7.7)

Improper Integrals (7.8)

More Applications of Integration (8.1-8.3)

Differential Equations (9.1-9.3)

Polar Coordinates (10.3-10.4)

**Course Description:** Math 152 is an introduction to integral calculus intended primarily for engineering and science majors. The main emphasis of the course is on understanding and applying definite integrals and differential equations to a variety of scientific problems.

**Objectives:** Master techniques of integration. Understand and apply the definite integral in a wide variety of settings. Set up and solve separable differential equations in a variety of applied settings. Develop problem-solving skills. Learn to write precise mathematics in complete sentences in a clear and organized manner.

**Quizzes:** A twenty five minute quiz will be given each Wednesday except in the event of a test. No makeups will be given. Seven quizzes will be given throughout the quarter. Your six highest scores will count toward your grade.

**Tests:** There will be two tests - October 21th and November 18th. These dates are subject to change. Makeups will be given only in the event of illness or emergency, provided you contact the instructor **BEFORE** the exam. No notes will be permitted.

**Final:** The final is on Wednesday, December 9, 11am-1pm. It will be comprehensive. No notes will be permitted. This date is set by the college and cannot be changed for any reason. Please plan to attend.

**Problem of the Week:** An additional problem will be assigned every one to two weeks. These are optional. Students choosing to do these problems must turn in at least five out of a possible six assignments. The solutions should be written carefully and neatly with complete sentences and must include the following:

- i. A statement of the original problem
- ii. A concise explanation of your method of solution
- iii. A concluding statement that answers the original question

You will be graded on the clarity and organization of your explanations as well as on the correctness of your solutions. Late problems will not be accepted.

**Additional Writing Requirements:**

Use standard-size paper without tears or fringes.

Staple any work that is more than one page.

Write neatly in pencil. Do not cross out errors. If you find yourself erasing extensively, stop and start again on a fresh page.

Use a straight edge for coordinate axes. Label axes with variables and units.

Solutions which do not follow all of the above guidelines will receive little credit. Projects need to be organized and stapled before class.

**A note on plagiarism:** Any student who plagiarizes the work of another student or outside source will receive a zero for that problem and forfeit the right to turn in additional problems. All other grades for problems already turned in will be eliminated. The same holds for any student who allows a classmate to copy his or her work.

**Homework:** Homework will be assigned almost every class. It will be collected every Monday. Each homework must be stapled and include a cover sheet, containing the following information:

1. Your name, section, and the homework number.
2. A list of the problems you did not complete or solved incorrectly.
3. The percentage of the problems assigned that you did complete correctly.
4. Your grade on the homework, as calculated below.

Each homework is worth 5 points. Determine your grade  $G$  from the percentage,  $P$  of problems you solve correctly, by the following formula:

$$G = [(P + 10)/20],$$

where  $[x]$  denotes the greatest integer less than or equal to  $x$ . Your nine highest homework scores (out of ten) will count toward your grade. Homework is due at the start of class. One point will be deducted from homework turned in after the start of class but before the end of class. You may turn in one homework late, but it must be turned in by the start of the next class. Otherwise homework will not be accepted after the end of class (this includes any homework put in my mailbox or under my office door, regardless of the time it was turned in.) If you need to miss class for any reason, it is your responsibility to find a way to get the homework turned in on time.

**P/NC Option Grading:** Those students choosing this option must do so by October 27th by submitting a Pass-Option Card (signed by the instructor) to the registration desk, otherwise a decimal grade will appear on your transcript. If an emergency situation occurs after this date that affects your ability to attend class and perform class work, you can fill out a formal request for a Z grade.

**Withdrawals:** The last day to withdraw from class is November 4th.

**General Comments:** To master the material, it is essential that you set aside time **each**

day to think about the homework problems and the concepts introduced in class. You should plan on spending an average of twelve to fifteen hours per week outside of class.

**Materials:** Graphing calculators may help on occasion, but are not essential.

**Cheating and Plagiarism:** Any student caught cheating on a quiz or a test will get a 0.0 for the course.

**Emergencies:** If school is closed for any reason, we will start where we left off when class resumes. If we were scheduled to have an exam the day school is canceled, the exam will take place the first day back at school.

**Electronic Devices** All electronic communication devices such as cell phones and pagers must be turned off during class.

**Grading:** The grade will be based on the following. The point distribution shown below is approximate and is subject to change.

Weekly Quizzes	6 @ 25 points each for 150 points
Homework	9 @ 5 points each for 45 points
Tests	2 @ 40 points each for 80 points
Problem of the Week	5 @ 10 points each for 50 points
Final	1 @ 80 points

The grading scale is linear and will be approximately as follows:

95%: 4.0      80%: 3.0      65%: 2.0