

University of Colorado at Colorado Springs

Math 135-002: Calculus I
Spring, 2008

Details

Course Schedule:	MWF 12:15 – 1:30, Columbine 322	
Instructor:	Jenny Dorrington	Office: Engineering 128
Phone:	262-3129 (office) 578-8880 (home)	MLC: Engineering 136 email: jdorrington@uccs.edu
Office Hours:	MWF 1:45 – 3:00, MW 10:00 – 10:45	
Prerequisite:	Math 105 PreCalculus, or the equivalent	
Text:	<i>Essential Calculus: Early Transcendentals</i> by James Stewart	
Recommended:	A scientific calculator (it should have logarithms and trigonometric functions).	
Optional:	Student Solutions Manual, a TI-83 or equivalent graphing calculator.	

Course Description & Objectives

Most things in the world change - the price of food, clothing styles, a car's fuel efficiency or your annual income. Calculus is the tool that allows us to study changing quantities; it allows us to describe and predict the future behavior of these quantities.

Our main tool in the study of change, and one of the major themes of calculus, is the *derivative* of a function. Therefore it is important to be comfortable with functions - where they come from, what they look like and how they behave. We will begin the course with a brief review of functions and graphs, and move quickly onto the notion of a limit, and its related concept of continuity. Next we will look at the tangent and velocity problems and their relationship to changing quantities, as a means to motivate the definition of the derivative.

After exploring applications of the derivative and its connection to graphs, we will consider a process which is seemingly unrelated to the derivative, but which is actually connected in a deep way. To motivate this topic, we will consider questions like the following: what is the area of the region that is bounded by the curve $y = \sin x$ and the x -axis between $x = 0$ and $x = \pi$? We will introduce the concept of definite and indefinite *integrals* and look in some depth at the Fundamental Theorem of Calculus.

In addition to the mathematics we will be investigating, you will learn how to read, write and communicate about mathematics. You will do this by reading the text book and discussing problems in class. You will also study several important theorems in some depth, and will have the opportunity to begin to write your own proofs.

Course Requirements

We will cover most of Chapters 1 through 5 of the text in this course. In order to facilitate class discussion, please try to read the text before class each day. We will focus on some of the major ideas in class, but we cannot cover everything there. This may mean there are topics which we do not discuss in class, but which show up on the homework, quizzes, and exams. That is, unless I explicitly say otherwise, you are responsible for every topic in the reading. Part of the responsibility for what we do cover in class is yours - *please ask questions*.

Attendance is essential for successful completion of this course. You are responsible for everything we do in class, *even if you are not present*. Thus, it is up to you to find out from a classmate what was covered in class on any day you miss. I will not spend class time repeating myself, so please see me before or after class to catch up, if necessary. It is also up to you to find out about any announcements, especially schedule changes. For example, not knowing that the date of a test has changed is **not** an excuse for missing the test.

I will assign a large number of suggested **homework** problems, with only a subset to be handed in from each section. Due dates will be announced in class, but something will be due each week. Doing homework is your way to study for the exams and quizzes, so be sure you do all of the suggested problems. Try to do as many extra problems as possible, as doing mathematics is the only way to learn mathematics. I encourage you to work in small groups on the homework, however *you should be sure you understand the problems yourself and that the work you turn in is your own*.

When turning in homework, please write neatly, organize the problems in order, and label them clearly. Any homework I cannot read will be returned ungraded. Show all work or justify your answers appropriately; unjustified answers may receive no credit. Please see the sample homework for a model.

In addition to homework, you will complete two **projects**. The projects are your opportunity to synthesize what you learn in class and to apply your knowledge to solve more in-depth problems. I will have more specific guidelines for you when the projects are assigned.

There will be approximately six **quizzes** throughout the semester. They will cover new material that you've practiced since the previous quiz, and will serve to help you determine if you are on track with the new material. If you must miss class on the day of a quiz, please make arrangements to make up the quiz *in advance*. ***If you do not make arrangements in advance, you may not make up the quiz.***

Finally, there will be three **tests** and a comprehensive **final exam**. There will be *no makeups given for the tests or the final exam*, nor can the final be taken early. See Important Dates below for the date and time of the final.

I expect you to show your work on homework, quizzes and exams. It is extremely important that your work be organized and easy to read. Unsupported answers may receive no credit. **All work submitted must be your own.**

Assessment

Your final grade will be computed with the following weights:

Quizzes	10%
Homework	10%
Projects (2)	10%
Exams	45%
Final Exam	25%

Final grades will be calculated according to the following scale:

A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	0 – 59%

Important Dates

Wednesday, February 6	Last day to drop or withdraw with a full refund
March 24 - 30	Spring Break – no classes
Wednesday, April 2	Last day to drop or withdraw without dean's approval (no refund)
Wednesday, May 14	Final Exam: 10:50 – 1:20, Columbine 322

Policies

Academic Honesty: All forms of cheating are grounds for an immediate F in the course for all parties involved; the minimum penalty will be a 0 on the affected assignment. Academic dishonesty is defined as the unauthorized use of assistance with intent to deceive a faculty member or another person assigned to evaluate work submitted to meet course requirements. While you are strongly encouraged to work together on homework and projects, *all work submitted must be your own. All exams and quizzes are closed note and closed book*, unless otherwise announced. Please see the Academic Honor Code and Policy on Cheating in the college catalogue.

Conduct: Students are expected to adhere to the Student Code of Conduct. In particular, disruptive behavior in class will not be tolerated - you may be asked to leave the room if I deem your behavior to be disruptive to your fellow students. Please note: arriving late to class is disruptive to the other students; *please arrive on time. Please silence all cell phones and pagers while in class.* See the full Student Code of Conduct on the University web site for more information.

Withdrawals: Dropping part of your schedule with a full refund is possible during the first three weeks of the term. After this date, you may withdraw completely and receive a partial refund; if you drop part of your schedule, you receive no refund. After the last withdrawal date (see important dates above), you may not drop or withdraw without special permission from the dean.

Incomplete: If you experience an emergency, have 75% of the class completed with a grade of C or better, and you have a verifiable and justifiable reason why the course cannot be completed at the time, then you may request an incomplete. The course must be completed within one year, otherwise your grade reverts to an F. *Incompletes are rarely approved-* they should only be used in extreme circumstances.

Students with disabilities need to provide me with their letters of certification and accommodation within the first two weeks of class, so that I can make the requested accommodations.