

Math 210 Course Policies

Spring 2010

Class meets: Mon, Tues, Thurs: 8:00–8:50 a.m., and Friday 8:00–9:50 a.m., in Plaza 188

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Office hours: Mon., Tues., Thur., 1 p.m.–2 p.m.

Please come by my office hours whenever you have questions, and even if you don't have questions. I am also available at other times by appointment.

You are also required to come by my office at one time during the third week of the semester. A signup will be passed around the class.

Tutoring: Student-led tutoring sessions Sunday, Monday, Wednesday, and Thursday, 7–9 p.m. in RAC 138.

Text: Stewart, “Calculus: Concepts and Contexts”, 4th ed. or Stewart, “Single variable Calculus: Concepts and Contexts”, 4th ed.

Optional text: Adams, Thompson, Hass, “How to Ace Calculus: The Streetwise Guide”

Optional text: Student Solutions manual to Stewart

Calculator: A graphing calculator is recommended. Sharing of calculators during exams is not permitted. You may not use your cell phone or any other communication device during exams, so you should not depend on these as your calculator.

Tablet PCs: There will be tablet PCs provided for your use during class. These are to help you better follow along in the material, and for us to check on whether or not you are understanding.

Prerequisites: 600 or higher on Math SAT, or C– or better in Math 103 and Math 104, or equivalent. In essence you need to be ready to use algebra and trigonometry and some geometry.

Web page: <http://erichamilton.net/calculus210/math210.html>

Email list: All students registered for this course will automatically have their Pepperdine emails added to the Seaver official class list for this subject, math210.01@pepperdine.edu. This will be used to announce corrections to homework assignments, changes in policy, and so on. If you do not read your Pepperdine email, or if you are not officially registered for this course, let me know which email you do read so that I can make sure you are contacted in case a critical announcement needs to be made.

Disability Services: Any student with a documented disability (physical, learning, or psychological) needing academic accommodations should contact the Disability Services Office (Main Campus, Tyler Campus Center 264, x6500) as early in the semester as possible. All discussions will remain confidential. Please visit

<http://www.pepperdine.edu/disabilityservices/> for additional information.

Objectives: The student should develop:

- An ability to translate a problem which is well-suited to mathematical solutions into mathematical language;
- A familiarity with functions and how they relate physical quantities;
- An ability to think and reason in a structured logical manner;
- A geometric intuition for ideas in calculus
- An appreciation for the fundamental ideas of the calculus;
- Increased facility with algebra, geometry, and trigonometry skills;
- An appreciation for the applicability, subtlety and beauty of mathematics.

Learning Outcomes: The student should be able:

- To take derivatives of functions given by a formula;
- To apply the concept of a derivative to real-life situations;
- To relate graphical aspects of derivatives;
- To find anti-derivatives of simple functions;
- To maximize or minimize a quantity in a one-variable setting;
- To use and explain the meaning of the fundamental theorem of calculus.

What you can expect from your professors:

- Above all, you can expect we will care about and be loyal to you, both as our students and simply as people. You can expect us to be passionate about what we are teaching and what you are learning, thoughtful in the homework and exam problems, and fair in grading.
- We will be prepared to present and discuss the concepts being discussed in a concise, clear, enthusiastic and helpful way.
- We will expect the best from you both academically and personally.
- We will not be too harsh in the problems assigned or in grading, nor too easy, as this will lead to lower standards of excellence.
- We will respect the fact that you have other classes, as well as a life, outside of this class. We will begin class on time, end class on time, and assign work that should not take you more than the standard two to three hours per hour of time in class (so around ten hours per week).
- We will strive to be as accessible to you as possible through office, phone, instant messaging, and email.

What we expect from you:

- Above all, you will not settle for mediocrity—you will expect excellence from yourself. In particular, you will expect from yourself that (1) you will understand (perhaps not perfectly, but as well as you are able) every idea discussed in class and in the text, and (2) you will find a way to solve every homework problem assigned. It is OK (it is expected!) to struggle and sometimes fail—it is not OK to not try. Remember that success consists of getting up just one more time than you fall down.
- You will be to class every day, and you will be on time, as a matter of respect to me and your fellow students. Of course there may be exceptions (e.g. due to sickness or another class you are attending that lets you out late) a few times during the semester, but these will be the exception rather than the norm.
- You will come to class ready to learn.
- You will allow me, like a good coach, to push you and stretch you and help you to learn and grow.
- You will complete and turn in every homework assignment.
- You will be willing to spend the time outside of class that will allow you to really understand and enjoy the ideas we discuss in this class (the rule of thumb for college courses is that for each hour in class, students should plan to spend at least two hours studying and working outside of class).
- If you have questions, you will not be too afraid or apathetic to ask.
- Cheating will not be tolerated—it is not fair to the other students, not to mention simply being wrong. Please don't ever do anything in this class or in any other activity in life that will lower your own standards of what is right.

Homework: Homework is really where you learn calculus. It's one thing to watch someone do calculus on the board—yet another to have the experience doing it yourself. So you should not view homework as simply a way to test whether or not you know what to do: it's also an opportunity for you to learn the material.

Homework will be assigned twice a week; homework assigned on Tuesday will be due on Friday, and homework assigned on Friday will be due on Tuesday. Homework should be turned in at the beginning of class.

Each assignment comes with solutions. Do not look at the solutions until you have made a good effort at solving the problem. Do not give up after just a few minutes—some problems are intended to make you think deeply about an issue. Work through the problems without the help of the solutions, and then go back over with a different color with the help of the solutions to work out the answer.

Remember that the primary purpose of the homework is to prepare for the exams, so treat it primarily as a training program for yourself, and only secondarily as something you need to score highly on.

Remember:

- Write your name on your homework.
- Write neatly if the grader can't read your work then he/she can't give you credit for it.
- Don't try to squeeze your work into as little space as possible: it's more difficult for you to write and more difficult for the grader to read. Also, leave space between problems.

- Clearly indicate your answer in some way, like circling your answer.
- Staple your homework if it is more than one page. If people are turning in unstapled work, we may institute a policy of deducting points for unstapled work. If you are in the habit of finishing your homework before class starts, you might consider purchasing a miniature stapler you can carry around with you.

Late assignments: No late homework is accepted. Exceptions can be granted, if you must give one of us notice that you are going to turn in an assignment late at least the class before the assignment is due. You must also have a good reason. These reasons will be treated on a case-by-case basis. When you obtain permission to turn in an assignment late, we will discuss a new due date for that homework.

Collaboration: You are encouraged to collaborate on all homework assignments, unless otherwise specified. This means you work on it independently before discussing it with each other, and it means you must thoroughly understand how to do the problem before writing it up. You must write up your answers separately; you cannot turn in one homework for more than one person, nor can you simply include photocopies of other students' work. Of course the homework turned in must represent your own thinking and your own work. There is no limit to the size of a group for collaboration, although 3–5 people tends to be an efficient size.

You should also use these groups to ask questions of each other to better understand the material. If you do not see each other frequently, you should set up a regular time and place to meet to work on assignments. If you do not have a group, talk to me and I can place you in a group. If you do not wish to work in a group, that is your prerogative but this will be a disadvantage to you.

Comments: You should include comments about the class at the top of your homework assignments. These comments can be “You go too fast”, “You say ‘um’ too often”, “I like this chapter”, “This is too easy/hard”, “Can we have more applications to engineering”, “Everything’s okay”, and so on. You will not be graded on these comments, but they will affect how we teach the class, and may make the class more enjoyable for you.

Biweekly reflections: Every other week you will be asked to write your reflections on what you have learned, what you are having trouble with, etc. These will be graded by completion. These will be in addition to your homework.

Class participation: You are expected to actively participate in class. Many students view learning as a passive act, where the teacher takes the only active role, and the student simply listens, or at most takes notes. This view is not advisable in this class. Here, you will need to take an active role in learning the material. *You* are in charge of your education, and *you* should take responsibility to learn the material as thoroughly as you can. Part of this involves asking questions in class, even questions that may sound “stupid”. A question clearing up a point you do not understand is, by definition, not stupid. Similarly, when I ask the class questions, you should try to answer them, even if you’re not sure of the answer. Your best guess is, by definition, not stupid.

Pre-class preparation: You are expected to read through the section of the book we are covering before you come to class. If you don’t understand something, write down specific questions you have to ask in class.

Reading a math textbook is different from reading most other books. In our own experiences, it usually requires two or three readings through a section to really grasp the material. Fortunately, each section is usually only a few pages long, so that reading it two or three times isn’t excessively difficult. One approach to reading math is this:

- Read through the section to try to get a basic grasp of the ideas and concepts of the section, and don't worry yet about understanding all of the details.
- Read a second time through the section, and this time try (expect from yourself!) to understand the details and examples.
- Finally, in doing the homework, read through the section again (or the part relating to the problem), including making sure you thoroughly understand the example(s) related to the homework problem you are doing.

If you really want to do things the most effective way, read the section before coming to class.

Attendance: Attendance is important simply due to the difficulty of the course. Missing one class may have the effect of your not being able to follow any of the classes for the rest of the term. In short, skip class at your peril.

Holidays:

Martin Luther King Day Jan. 18
 Spring Break March 1–5

Exams: There will be five midterms, and one final.

There are no make up quizzes or exams. If you must miss an exam due to a major emergency, you must make arrangements with me beforehand, and exceptions may be granted on a case-by-case basis. If granted, your final exam score will be used to calculate the score for the missed exam.

Midterms will be during the normal class period. Both midterms and final will occur in the normal classroom for the class. Dates for these tests are as follows:

Midterm 1	Jan. 28	during class
Midterm 2	Feb. 16	during class
Midterm 3	Mar. 16	during class
Midterm 4	Apr. 5	during class
Midterm 5	Apr. 18	during class
Final	Apr. 26	7:30 a.m.–10:00 a.m.

Grading: The grade will be determined by percentages as follows:

Homework	10%
Midterm 1	15%
Midterm 2	15%
Midterm 3	15%
Midterm 4	15%
Midterm 5	15%
Final	15%
<hr/> Total	<hr/> 100%

I realize that on occasion, not everything is going well, and from time to time, this will happen on an exam day. Since the final exam covers all of the material from all exams, the solution is as follows: the final exam grade will substitute for your lowest midterm grade if this is to your advantage. This will be done to your grade automatically at the end of the semester, as long as it is to your advantage to do so.

A grade of C indicates an ability to do homework-like problems, and memorization of all techniques and definitions. In order to receive a B, a student must demonstrate a deeper knowledge of the material, being

able to apply the course material to new circumstances where applicable. An A student must demonstrate this kind of deep understanding in all of the covered topics, as well as be able to draw new conclusions from known facts in a logical manner, and must also demonstrate persistence and diligence. In the other direction, a grade of D shows only superficial understanding of the material, and shows inconsistency to do straightforward problems. An F grade indicates that the student has severe gaps in even superficial understanding of the material in the course.

In this regard, here are the cutoffs:

A	92–100
A-	90–91
B+	88–89
B	82–88
B-	80–81
C+	78–79
C	72–77
C-	70–71
D+	68–69
D	62–67
D-	60–61
F	0–59

Although this is the philosophy, grading will be done by counting points received on each problem, as usual. But the difficulty level of the problems will be arranged in order to achieve the above grading scale. Typically, there will be no curve. An exception might be made if we recognize after the fact that the exam was not designed correctly, but this is expected to be a rare occurrence. At the end of the course, borderline cases will be determined by our subjective estimate of how well you knew the material, how much of an effort you made, and so on. Note that this applies on either side of the border: your grade may go down if we think it is warranted.

How hard you should expect to work: Calculus is hard. It requires you to remember everything you did in all your previous math classes, and when, inevitably, we run into material we have forgotten, you may need to review those topics just when the class is continuing on. Furthermore, as a college-level class, you are expected to take charge of your own education. No one will prod you to make sure you are doing your work. It is fairly easy to skate by without learning anything, and suddenly, the tests will demonstrate your grade is in jeopardy. Often, it is too late to do anything about it at the time.

You should also expect to confront problems on homework and on exams that take some time to do. You should not give up just because you cannot do a problem in a few minutes, or just because you have no idea how to start. Sometimes you will have to think a lot about a situation before it becomes clear to you what you might try.

A rule of thumb for math classes at the college level is that you should expect to spend two hours outside of class for every hour in class. Three hours, if you expect to get an A.

Christian attitude: Although not part of the grading for this course, you are expected to approach this class with a Christian attitude, being willing to help your fellow classmates to understand the material outside of class, being willing to be corrected by your fellow classmates when you see they are right, but firm in your conviction otherwise, being bold to ask questions without feeling ashamed of looking foolish, encouraging one another in love, being patient with those who are asking questions, and preferring a grasp

of the material, which is enduring and becomes part of you, over a grade, which is transient, external, and shallow. You should diligently devote the time you spend on this class as to the Lord. As cheating harms both the cheater and the rest of the class (though in different ways), you should not cheat, nor should you provide temptations for others to cheat.

For my part, we commit to approaching this class with a Christian attitude, viewing my role as that of a servant, being concerned first for your personal, especially intellectual, development. We will also seek to produce an environment of encouragement and love, that fosters a sense of community and understanding. We commit to reporting grades that accurately and honestly reflect the level of work done in the class, as described in the paragraphs above. We also commit the time we spend preparing for this class as to the Lord, and we will pray for all individuals in the class on a regular basis, understanding that even as we may seek to educate, God provides the true transformation.

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