1 Your Instructor (Me) and TA

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  Office Hours: TBA

2 Prerequisites and Textbook

This is a second semester calculus course, so in particular I’ll be expecting you to know first semester calculus. This usually includes limits, derivatives, techniques for calculating derivatives, applications of derivatives, integral, techniques for calculating integrals, etc. I will also expect you to be good friends with the usual functions that you meet in calculus: polynomials, trigonometric functions, exponentials, etc.

The textbook will be Stewart’s *Calculus: Early Transcendentals*.

3 Grading

Your grade will be based on homework, two midterms and a final. Your grade will be computed as

\[ .10 \times \text{hw grade} + .20 \times \text{lowest midterm} + .30 \times \text{highest midterm} + .4 \times \text{final} \]

The usual grading scheme will hold:
- A: 90 - 100
- B: 80 - 89.9999
- C: 70 - 79.9999
- D: 60 - 69.9999
- F: 59.9999 and below.

HOWEVER, and this is a big however, I reserve to give more liberal grades than these based on a curve. That is, if you have an 85 you are *guaranteed* at least a B, but I may decide to adjust grades upward if I give out a difficult test.

4 Homework

Weekly homework will be assigned. You will be using the Quest system to complete the assignments (more on this later). I will also assign problems that are not to be turned, but are for your edification. Please do these additional problems and come ask about them. Not only will you learn more, you’ll be in my good graces.
5 Material

The following is a rough calendar of what we'll be doing in class. I reserve the right to change any of this, but it won't change by much.

8/28 - 7.8 Improper integrals
8/30 - 11.1 Sequences
9/2 - Labor Day. No class.
9/4 - 11.2 Series
9/6 - 11.3 Integral test / sums
9/9 - 11.4 Comparison tests
9/11 - 11.5 Alternating series
9/13 - 11.6 Absolute Convergence / Ratio and root tests
9/16 - 11.8 Power series
9/18 - 11.9 Functions as power series
9/20 - 11.10 Taylor and MacLaurin series
9/23 - 11.11 Applications of Taylor
9/25 - 10.1 Parametric Equations
9/27 - 10.2 Calculus with Parametric Curves
9/30 - 10.3 Polar coordinates
10/2 - EXAM # 1
10/4 - 10.4 Area and Length in Polar Coordinates
10/7 - Buffer Day
10/9 - 12.1 Three dimensional coordinate systems
10/11 - 12.2 Vectors
10/14 - 12.3 Dot product
10/16 - 12.4 Cross product
10/18 - 12.5 Equations of Lines and planes
10/21 - 12.6 Cylinders and Quadric surfaces
10/23 - 13.1 Vector Functions
10/25 - 13.2 Derivatives and Integrals of Vector Functions
10/28 - 14.1 Functions of several variables
10/30 - 14.2 Limits and continuity
11/1 - 14.3 Partial derivatives
11/4 - EXAM # 2
11/6 - 14.4 Tangent planes and linear approximations
11/8 - 14.5 Chain Rule
11/11 - 14.6 Directional Derivatives and gradient vectors
11/13 - 14.7 Maxima and minima
11/15 - 14.8 Lagrange Multipliers
11/18 - 15.1 Double integrals over rectangles
11/20 - 15.2 Iterated Integrals
11/22 - 15.3 Double Integrals over General Regions
11/25 - 15.4 Double Integrals in Polar Coordinates
11/27 - NO CLASS
11/29 - 15.5 Applications of Double Integrals
12/2 - 15.10 Change of Variables in Multiple Integrals
12/4 - Buffer Day
12/6 - Buffer Day / Last day of class
12/14 - 9am - 12pm FINAL
6 How to Do Well

The most common question I have gotten while teaching math is “How do I do well on the test/homework/final?” I will charitable and assume that this question is equivalent to “How do I learn this material deeply and thoroughly?” There are a few answers to this question.

- Read the chapter before the corresponding class. You likely won’t understand it all, but you’ll understand much more of class by reading it, and much more of the chapter by coming to class.
- Come to class! Pay attention in class.
- If you get confused, and most likely you will, come to my office hrs or the TA’s office hours.
- But, the NUMBER ONE IMPORTANT THING FOR DOING WELL is to do problems. Lots and lots of problems. I’ll assign you homework problems, but do more! Pick random odd-numbered problems in the book and then check your work. I’m not kidding here. It may sound like doing, say, twice as many problems takes twice as much time, but it doesn’t. Eventually, you get really good at them and can breeze through them. This is a state you want to be in.

A thing to note however, is that at first you are always going to be confused when doing problems. You have to just know that that’s going to be the case, fight through it, and figure out what’s going on.

7 Policies

7.1 Attendance/Class

I won’t take attendance, of course, but you should come to class. This class will go fast, and it’s very hard to make things up by just reading them in the text.

In class I would ask that you not use electronic devices; to spell this out I mean computers, cell phones, iPads unless they are strictly necessary for accessibility reasons.

7.2 Add/Drop

The add/drop days are given on the university calendar

http://registrar.utexas.edu/calendars/13-14

7.3 Students with Disabilities

Appropriate accommodations are made for students with disabilities. For details see

http://ddce.utexas.edu/disability/rights-and-responsibilities/

7.4 Honor Code

The honor code at UT, which you are expected to abide by, runs as follows:

As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity.

And the University Code of Conduct:

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.
If you need the definition of any of the words, e.g. a spelling out of what “academic integrity” actually is, then visit
http://catalog.utexas.edu/general-information/appendices/appendix-c/student-discipline-and-conduct/
In general, it is absurdly easy to spot cheating, so don’t do it.

7.5 Quest

Because of the number of students I’ve opted to use Quest, an online system for homework grading. Unfortunately, this entails a $25 charge for each of you to use. Go to http://quest.cns.utexas.edu to log in.

7.6 Contacting Me / Office Hours

Email to me should be reserved for things like administrative questions or things along the lines of “My leg has been scissored off in an industrial accident and I cannot turn in my homework” NOT “I don’t understand problem 12.5 [or whatever].”

For help on the material, please come to office hours. I will be unable to get to know you individually during class, but it would be great to see people face-to-face. Office hours are also a great way to meet other students in the class. They can often be helpful as well.

7.7 Where To Get More Help

I’ll be doing my best to be helpful and clear in office hours, and I assume the TA will be doing the same. However, it’s entirely possible that you’ll need more help at some point (I certainly have in my math career). One can get tutoring at the Sanger Learning Center: www.utexas.edu/ugs/slcsupport/one-on-one. There also appears to be drop-in tutoring.