

Math 2321

Calculus III

Spring 2009

Instructor: Dr. Ryan C. Daileda

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Scheduled Lectures:

- Section 2: MWF 9:30 AM - 10:20 AM, Marrs McLean Science Building (MMS), Room 257
- Section 1: MWF 10:30 AM - 11:20 PM, Marrs McLean Science Building (MMS), Room 257

Office Hours: Monday and Wednesday 3:30 PM - 5:00 PM, Tuesday and Thursday 11:00 AM - 12:30 PM, and by appointment

Textbook: *Calculus, Early Transcendentals* (sixth edition) by James Stewart

Course URL: <http://www.trinity.edu/rdaileda/calculus>

Prerequisites: Math 1308 (Calculus B) or Math 1312 (Calculus II)

Course Content: This course studies the calculus of functions $f: \mathbb{R}^m \rightarrow \mathbb{R}^n$, with emphasis on the cases $m, n \leq 3$. This includes parametric curves ($m = 1, n \geq 2$) and surfaces ($m = 2, n \geq 3$), multivariate functions ($m \geq 2, n = 1$), and vector fields ($m = n \geq 2$). We will begin with the differential calculus of functions of several variables, including partial and total derivatives, the chain rule, and optimization. After this we'll turn to the integral calculus of multivariable functions, studying iterated integrals and Fubini's Theorem, changes of variables, and perhaps a few applications. Finally we'll turn to the study of vector fields. Topics will include curl and divergence, line integrals, Green's Theorem, surface integrals, Stokes' Theorem, and the Divergence Theorem. If time permits, we may even attempt to sketch the connection of these results to the Fundamental Theorem of Calculus.

Homework: Homework will be assigned daily and will consist of reading (yes, you are expected to read the textbook!) as well as problem solving. Assignments will typically be due the lecture following the day they are assigned, and **due dates will be clearly indicated on the course homework web page**. All written work is to be turned in at the **beginning of class** the day that it is due. **Late homework will not be accepted in the absence of divine intervention or matters of similar weight. Unexcused late and missing papers count zero.**

Assigned exercises will come in two varieties: **graded** and **practice**. Graded exercises are those whose solutions are to be written up (see guidelines below) and handed in on the specified due date. Your work on these exercises will be evaluated and returned to you. Practice exercises are

intended to help direct your studying and give you an opportunity to refine your skills, and will be essential to your mastery of this course. You will find it very difficult to become proficient in Calculus (indeed, in *any* math course) if you do not spend a significant amount of time working through practice exercises. While **solutions to practice exercises are not to be turned in**, I fully expect every student to be able to successfully solve each practice exercise. In particular, **both graded and practice exercises are fair game for exam material.**

Graded homework exercises are to be written **neatly** using **one side** of 8.5×11 inch paper, and multiple pages should be stapled together **before** you come to class. Do not use paper from a spiral notebook unless you can tear off the ragged edge. **Failure to adhere to these guidelines will be penalized. Sloppy work and work written on the backs of pages will not be graded!**

All written homework assignments will carry equal weight toward the homework component of each student's grade (see "Grades" below), with the exception that **each student will have his or her lowest three homework scores dropped.**

Collaboration on homework assignments is permitted and encouraged, and you should feel free to talk to other students while you are in the process of thinking about a problem. However, it is never acceptable to simply pass off someone else's work as your own. Therefore, you must cite sources on any work that is to be turned for a grade, whether it is from a textbook or from another student in class. The only sources you do not need to specifically cite on your written work are the course textbook or my assistance.

Exams: There will be three in-class midterm exams during the semester as well as a cumulative final exam held during one of the Common Exam Periods. The dates and times for the exams are as follows:

First Midterm Exam	Friday, February 6
Second Midterm Exam	Wednesday, March 4
Third Midterm Exam	Monday, April 6
Final Exam	TBA

An evening Q & A session will be held prior to each exam. The times and locations of these sessions will be announced in class and posted on the course web page.

If you have a legitimate conflict with these exam times, please contact me as soon as possible. Please do not wait until shortly before the exam. Please be aware that **the final exam will not be given early to accommodate travel plans.**

No assistance of any kind is allowed on exams, except for resources that I may distribute with the tests. This means that the use of books, notes, calculators, computers, PDAs, cell phones, etc. will not be permitted during exams. The only things you need to bring with you on the day of any exam are a pencil, an eraser and a positive attitude.

Calculators: Calculators can be useful tools, and should you feel the need you may use them to check your answers to homework problems. Remember, though, that they are not required and will not be allowed during exams, so do not become dependent on their use.

Grades: Your overall score in the course will be based upon your scores on the homework, midterm

exams, and the final exam. The point values are as follows:

Homework	100 points
Midterm Exams (3)	100 points (each)
Final Exam	150 points
Total	550 points

Your letter grade will be determined by how many of the 550 possible points you earn as well as by how well the class performs overall, i.e. *there will be a grading curve*. So you can gauge your performance throughout the semester, cutoffs for major grades (A, B, C, D, F) will be determined for each exam and announced in class.

Expectations: I expect each student to invest at least 2 to 3 hours of work and thought outside the classroom for every hour of lecture. To effectively study for this course it is essential that you **carefully read the assigned portions of the textbook and work through as many practice problems as possible**, as well as go over your lecture notes and turn in written assignments.

Attendance: Attendance is highly encouraged but is not mandatory. Roll will not be taken, but excessive absences should be explained to me.

Outside Help: The Math Department sponsors free weekly calculus help sessions, usually beginning the second week of the semester, and also maintains a list of peer tutors. Additional information will be posted on the course web page as soon as it is available.

Use of Previous Exams: Students are permitted to obtain and study exams given in previous offerings of this course. I will (upon request) gladly provide access to copies of exams I have given in the past. However, **previous exams should not be used to judge the content or difficulty of the exams that will be given in this course**.

Academic Integrity: All students are covered by a policy that prohibits dishonesty in academic work. Under the Honor Code, a faculty member will (or a student may) report an alleged violation to the Academic Honor Council. It is the task of the Council to investigate, adjudicate, and assign a punishment within certain guidelines if a violation has been verified. Students who are under the Honor Code are required to pledge all written work that is submitted for a grade: “On my honor, I have neither given nor received any unauthorized assistance on this work” and their signature. The pledge may be abbreviated “pledged” with a signature.

The specifics of the Honor Code, its underlying philosophy, and the norms for sanctioning can all be found on the Academic Honor Council website, accessed through the Trinity Homepage:

http://www.trinity.edu/departments/academic_affairs/honor_code/

Special Needs: If you have a documented disability and will need accommodations in this class, please speak with me privately early in the semester so I may be prepared to meet your needs. If you have not already registered with Disability Services for Students, contact the office at 999-7411. You must be registered with DSS before I can provide accommodations.