

Math 2413 Calculus I Brazosport College – Spring 2011
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Office hours: MW 3-4 pm, TTH 12-2 pm, 3-5 pm

Textbook:

Thomas' Calculus, 12th edition.

Calculator:

TI-83/84 or TI-86 Graphing Calculator. The TI-83/84 is recommended, the TI-86 is fine. The TI-85 or TI-82 are a distant third. I will be demonstrating methods using a TI-83, your deviating from that should be a function of your confidence with your calculator. You may not use a TI 89, 92 or any model that allows symbolic manipulation or has a built in CAS or equivalent system during a test. I may require you to purge the memory of your calculator before a test, so if you have a program you don't want to lose you should back it up off the calculator. If you want to use a Casio, HP, or other oddball calculator in this class, for example because it is required in future engineering classes at another school, please check with me first, and please bring the manual for your calculator with you when you do. I don't want to surprise you on the day of a test by telling you you can't use the calculator you're familiar with.

You may use a smartphone calculator if both the device and the app are approved by me in advance, and if the phone has a "plane mode" or something similar so you are sure it won't ring during class or a test.

Course Description

Differential and Integral Calculus.

Upon completion of the course, the student will be able to:

1. Find the limit of a function using limit theorems.
2. Compute left and right hand limits.
3. Calculate limits involving infinity.
4. Find intervals upon which a function is continuous.
5. Compute limits involving trigonometric functions.
6. Find the slope of a tangent line using the limit definition of the derivative.
7. Determine where a given function is not continuous, not differentiable, or both.
8. Use the derivative to solve rate of change problems.
9. Apply the Mean Value Theorem.
10. Use the product and quotient rules to find a derivative.
11. Apply the chain rule to find a derivative.
12. Find the derivative of a function implicitly.
13. Use implicit differentiation to solve related rates problems.
14. Use the derivative to locate and classify local extrema.
15. Use the second derivative to determine concavity.
16. Find the antiderivative of a function.
17. Use the Fundamental Theorem of Calculus to compute a definite integral.
18. Use the substitution method of compute a definite integral.
19. Compute the area under a curve between two points.
20. Solve application problems using the definite integral.

Prerequisites:

As stated in the catalog, the prerequisites are College level Pre Calculus **AND** College level Trig **AND** College Algebra, or the consent of the instructor. It is important that you have strong algebraic skills and a sufficient trigonometry background. If you are weak in these areas you run a substantial risk of not passing this class. If you registered for this class without taking the prerequisites you should talk to me about your background as soon as possible; I have a few diagnostic tests that might help you decide if your preparation is sufficient for Calculus. I'm not going to make you drop the course if you lack one or more of the prerequisites, I just want to make sure you understand that the course design assumes you have taken the Algebra – Trig – Pre Cal sequence, in college, first.

Grading

The grade ranges are:

A: 90 -100%
B: 80 – 89%
C: 70 – 79%
D: 60 - 69%
F: Below 60%

My grading method is:

3 tests worth 20% each
Final exam worth 20%
A number of quizzes, which together are worth 20%

LAB REQUIREMENTS

None

STUDENTS WITH DISABILITIES

Brazosport College is committed to providing equal education opportunities to every student. Brazosport College offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. Please contact the Special Populations Counselor, 979-230-3236, for further information.

ACADEMIC HONESTY

If you cheat on a test and I catch you I will give you a zero on the test, and will report you to the appropriate dean. What he will do I can't say. It's possible to be expelled for a single instance of cheating. If you cheat a second time I will give you an F in the class and recommend you be expelled.

Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately. Please refer to the Brazosport College Student Guide for more information, this is available online at <http://www.brazosport.edu>, click on the link found on the left side of the homepage.

ATTENDANCE AND WITHDRAWAL POLICIES

Attendance is taken each class day but is not part of your grade. This is not a developmental math class, I am not required to drop you if you stop coming to class, and very likely will not drop you if you do so; if you stop coming and fail to drop it is therefore very likely you will make an F. If you know you will be missing class let me know by either phone or e-mail.

The last day to drop this semester is April 1 (no kidding).

Please come to class on time. Walking in late every day is rude. Also, please turn off your cell phone before class, or, if you need to be accessible, switch to vibrate or some other method which won't disturb us all when it rings, and leave the class to answer the phone.

Don't text in class, don't listen to an mp3 player in class, don't play with any sort of electronic entertainment in class.

Come to class. It's very hard to pass a class like this if you don't attend. Really.

COURSE REQUIREMENTS AND GRADING POLICY

The grade ranges are:	A: 90 -100%
	B: 80 - 89%
	C: 70 - 79%
	D: 60 - 69%
	F: Below 60%

My grading method is:	4 tests worth 15% each
	Final exam worth 20%
	A number of quizzes, which together are worth 20%

I collect all the homework at the end of the semester, when you take the final exam. I then grade your final and calculate your course grade. If you are within 1.5 points of the next letter grade, I look carefully over your homework. If it appears to me that you have made a good effort at the homework throughout the semester, I will bump you to the next letter grade. If you have done, say, about half the homework, I might bump you a maximum of .8 or so points. If you have done no homework, you get exactly what your course average indicates.

I will be happy to return your homework to you after I have turned grades in.

TESTING

As stated above, we will have three tests and a final exam. Each test will use an entire class period. I anticipate allowing you to have one page of notes to refer to during each test, though I reserve the right to adjust this policy, and you should of course have your calculator; the tests are written with the assumption that they will be taken with a graphing calculator. You can try to get by without one, but I will not adjust the test to accommodate your not having a calculator, or your having forgotten it that day. I will be glad to help you with using the calculator during the class, but I cannot help you with anything during the test, including how to enter a problem into the calculator or how to interpret the result. Use of the calculator is part of what I'm testing.

We will have quizzes on some days we don't have tests. I often allow you to work with another student on a quiz, or to refer to your book or to other resources. Please don't confuse my quiz standards with my testing standards.

You may do test corrections on **one** test during the semester. The rules for test corrections are:

- The corrections are due two days after you get the test back. I will not take them late.
- Corrections may not be done on the test, they must be on separate pages stapled to the back of the test
- The standard for grading the corrections is **higher** than the standard for grading the tests. You have longer to do the corrections, and have help in the Math Lab and from other sources. To get credit the corrections must be **perfect**.
- I reserve the right to ask you to come in and explain part or all of your corrections to me after you hand them in. You may get help with the corrections, but you have to work the problem yourself,

and you have to understand the answer. Your goal should be to convince me that if you took the test now you would make a 100.

- If you do the corrections perfectly I will give you one third of the points you missed on the test back. So, if you made an 70 on the test, you missed 30 points. If your test corrections are perfect, you would get 10 of those back. Now you would have an 80 on the test.
- If your test corrections are, for example, 70% correct, I will give you 70% of one third of the points you missed back.

MAKE-UP POLICY

If you miss a test and do not have a verifiable excuse, you get a zero. With a verifiable excuse, I will either write you a make up test or, in some very unusual cases, allow your final grade to count as the missing test grade. Make up tests are usually somewhat harder than the original test was, since I used up all the “obvious” questions on the original test, and the average grade on make up tests is lower than the average grade on tests taken in class. It’s to your advantage to take the test with the rest of the class.

I do not allow you to make up quizzes, but I do drop your lowest quiz grade. You should expect to have about ten quiz grades by the end of the semester.

OTHER STUDENT SERVICES INFORMATION

Information about the Library is available at www.brazosport.edu/~lib/Information.htm or by calling 979-230-3310.

Information about study skills and tutoring for math, reading, writing, biology, chemistry, and other subjects is available in the Learning Assistance Center (LAC), see www.brazosport.edu/~lac or call 979-230-3253.

To contact the Math Department call 230-3225.

The Student Services provides assistance in the following:

Counseling and Advising	979-230-3040
Financial Aid	979-230-3294
Student Activities	979-230-3355

To reach the Information Technology Department for computer, email, or other technical assistance call the Helpdesk at 979-230-3266.