MATH 165
CALCULUS I

Nicholls State University, Summer 2004

Contact Information
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Course Information
Prerequisite: Math 102 or 108 (with a **C** or better), or advanced placement.
Text: Calculus (8th ed.) by Varberg, Purcell, Rigdon (Prentice Hall)
Calculator: You will need to have at least a scientific calculator.

Course Description (catalog)

Limits, derivatives and integrals of algebraic functions, applications of derivatives and integrals.

Course Description (instructor)

Several years ago, a group of the brightest minds of our time got together to discuss the greatest achievements of mankind. Their choice for the number one achievement was not the wheel, relativity, computers, or electricity. It was the Calculus. My goal this semester is to teach you enough calculus to prepare you for Calculus II (or whatever course you will take next), but also to help you understand why this subject is so great.

We will use our text for homework assignments, but we will not follow the order of the sections. I will teach the topics following my own schedule (see last page). We will begin by learning a lot of rules that we can follow without understanding too much of what we are doing. This is usually fairly simple. Then once we have the mechanics down, we will learn what we are doing, why is it necessary, and what makes it so remarkable. The semester will be roughly divided into two halves, differential calculus and integral calculus. During the first half we will study derivatives and the second half focuses on integration. That probably means nothing right now.

Grading Policy

We will have three 100-point exams and a 150-point final. If your semester average going into the final is an 'A' or a 'B' you may elect to skip the final. Additionally, we will have random unannounced quizzes to make sure basic skills are being mastered. I intend to have many of these, and I'll drop the lowest few. How many

I drop depends on how many we have. We will form a 100-point grade out of the quizzes we keep. You will be assigned a letter grade based on the usual 10% scale (A: 90-100%, B: 80-89%, etc).

Attendance

I will not include attendance as part of your course grade. I am not your mother or your parole officer, and this is not high school. I do, however, expect you to attend class everyday. You are responsible for all material covered in class.

Course Objectives

To learn as much of the calculus as humanly possible in one semester, while at the same time developing intuition and an awareness of higher mathematics. Ok, want less vagueness? At the conclusion of the semester, a student should understand limits, continuity, transcendental functions, derivatives, antiderivatives and definite integrals. For even more specificity, a student should be able to:

- evaluate limits including limits at infinity
- find the slope of the tangent line to a function
- find the derivative and antiderivative of a given function
- interpret the meaning of a derivative
- graph a function using derivatives
- find the maximum and/or minimum value of a function
- solve application problems using derivatives and antiderivatives
- find the area under a curve of a given function

Instructor Expectations

Come to class prepared to learn. I expect a high degree of intellectual curiosity. In order to understand what we are doing in class, it will be necessary for you to do problems outside of class, and it would be beneficial to you to read the text prior to our covering the material in class.

Closing Remarks

It is assumed that you are attending this university because you have a desire for higher learning. It is therefore expected that you will pay attention, be respectful of your instructor and fellow students, and follow the Code of Student Conduct. Instances of academic dishonesty will be dealt with severely. If you are caught cheating, you will fail this course. Similarly, if you are a disruptive presence in the classroom, you will be dropped from the class.

Math 165 – Calculus I
Summer 2004 Class Schedule

This is our approximate class schedule. Below I have listed the homework assignments for each day, the sections of our text that may serve as reference, and the tentative dates of our exams. If time allows, more topics may be added. If time does not allow, some topics may be skipped. All homework assignments are ***odd problems only*** unless otherwise noted.

Date	Section(s) in text	Homework
6/7	---	---
6/8	3.3, 3.4, 3.5	p.119: 1-47 p.122: 1-13 p.127: 1-29
6/9	3.7, 7.1, 7.3, 7.4	p.138: 1-19 p.324: 3-13 p.335: 3-19 p.340: 17-21
6/10	Test #1 Review	
6/11	***Test #1***	Read 2.1-2.3
6/14	2.4, 2.5, 2.6	p. 64: 1-37 p. 71: 1-17 p. 76: 1-29
6/15	2.7, 2.8	p. 80: 1-10 all p. 84: 1-41
6/16	2.9, 3.1	p. 91: 1-35 odd, 38-40 all p. 104: 1-6 all, 7-23 odd
6/17	3.2	p. 111: 1-25, 37-41
6/18	no class	
6/21	4.7	p. 201: 1-23, 27-31
6/22	4.1, 4.3, 4.4, 4.5	p. 166: 1-31 p. 178: 1-15, 23-27 p. 185: 1-31 p. 191: 1-13
6/23	4.2, 4.6	p. 172: 1-35 p. 196: 1-31
6/24	Test #2 Review	
6/25	***Test #2***	Read 3.8
6/28	3.8, 3.9	p.143: 1-33 p.149: 1-19
6/29	7.5	p. 345: 5-22 all
6/30	5.1	p. 214: 1-39
7/1	5.3, 5.4	p. 226: 1-33, 51 p. 233: 1-15
7/2	5.5	p. 240: 1-21, 23a
7/5	*Independence Day* (no class)	
7/6	5.6, 5.7	p. 249: 1-21 p. 256: 1-31
7/7	5.8, 7.1, 7.3, 7.4	p. 264: 1-55 p.324: 15-21 p.335: 29-35 p.340: 23, 25
7/8	Test #3 Review	
7/9	***Test #3***	Read 6.1
7/12	6.1	p. 278: 1-29
7/13	6.2, 6.3	p. 285: 1-21 p. 292: 1-13
7/14	misc	---
7/15	misc	---
7/16	Final Exam Review	

*****FINAL EXAM*****