

Math 2200 Differential Calculus Spring 2004 TTh 5:00 p.m.-6:15 a.m. Room 323
Instructor: Dr. Alla V. Balueva Final: Tuesday, May 4 7:00-10:00 p.m.

Text: Calculus with Analytical Geometry, "Early Transcendentals Version", 6e, by Edwards & Penney, 2003, Prentice Hall.

Optional: Student's Solution Manual

A Scientific Calculator will be needed

Prerequisite: Math 1113 Precalculus with a passing grade. Those students for which several years have passed since studying Precalculus may need to review it.

Course Description: Limits and Continuity, Differentiation, Mean Value Theorem for Derivatives; Application of Differentiation; Anti-derivatives.

Textbook Sections:	Chapter 2	Sections	1-4
	Chapter 3	Sections	1-9
	Chapter 4	Sections	1-7
	Chapter 5	Sections	1,2
	Chapter 8	Sections	3

Course Requirements

1. Last day to withdraw without receiving a WF is March 5. Only students currently passing will receive a W.
2. Lectures are in integral part of the course. All attempts should be made to attend each session. Because of the extensive material to be covered, missing lectures would result in a loss of continuity. Roll will be taken daily. Arrival late to class is disruptive, and you will be counted absent. If you leave the room, do not bother to return. If there are medical reasons you must leave please notify me now. You will be required to provide documentation of any medical condition. Excessive absences could result in possible withdrawal from the course. If you leave the class early you will be considered absent that day.
3. Reading the text and working the assigned exercises is a must. Suggested Assignments will be given with each section.
4. It will be probably require 6-8 hours minimum of outside study per week to successfully master the material.
5. Students are responsible for all material covered or assigned in class, whether or not it is in the text.

6. If you are absent the day a test is returned, you will have to pick it up in my office during announced office hours.
7. All work submitted for credit is assumed to be the students alone. Any plagiarism or cheating will be dealt with severely. Cheating on a test or exam will receive a O.
8. There will be **no make-up tests or exams.**
9. Spring Break is Mon, March 8 – Fri, March 12.
10. Last day of class is April 29.

Evaluations: Tentative Dates

Tests:

Tuesday	January 27	100 points
Tuesday	March 30	100 points
Tuesday	April 27	100 points

Reviews:

Review #1	February 19	30 points
Review #2	March 30	30 points
Review #3	April 27	30 points

Quizzes: 10 quizzes, each counts 10 points, I will drop 3 lowest grades – total 70 points

Final	May 4	<u>100 points</u>
		560 Total

Grades will be determined as follows:

90%	of 560 points = 504 points for an A
80%	of 560 points = 448 points for a B
70%	of 560 points = 392 points for a C
60%	of 560 points = 336 points for a D
	Below 336 points is not passing

Office Hours: TTH 1:30-3:30 a.m. or after 6:15 p.m. – welcome to stop by.
Room 525

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Email: balueva@hotmail.com, balueva@math.uga.edu

This syllabus provides a general plan for the semester, deviations may be necessary.

I. Prelude to calculus (2 weeks)

- 2.1 Tangent Lines and Slope Predictors
- 2.2 The Limit Concept – Day 1.
- 2.2 The Limit Concept – Day 2.
- 2.3 More About Limits – Day 1.
- 2.3 More About Limits – Day 2.
- 2.4 Concept of Continuity – Day 1.
- 2.4 Concept of Continuity – Day 2.

II. The derivative and rules for differentiation (3 weeks)

- 3.1 The Derivative and Rates of Change – Day 1.
- 3.1 The Derivative and Rates of Change – Day 2.
- 3.1 The Derivative and Rates of Change – Day 3.
- 3.2 Basic Differentiation Rules – Day 1.
- 3.2 Basic Differentiation Rules – Day 2.
- 3.3 The Chain Rule – Day 1.
- 3.3 The Chain Rule – Day 2.
- 3.4 Derivatives of Algebraic Functions

III. Applications of the derivative; derivatives of transcendental functions. (3 weeks)

- 3.5 Maxima and Minima of Functions on Closed Intervals.
- 3.6 Applied Optimization Problems – Day 1.
- 3.6 Applied Optimization Problems – Day 2.
- 3.6 Applied Optimization Problems – Day 3.
- 3.7 Derivatives of Trigonometric Functions – Day 1.
- 3.7 Derivatives of Trigonometric Functions – Day 2.
- 3.8 Exponential and Logarithmic Functions.
- 3.9 Implicit Differentiation and Related Rates – Day 1.
- 3.9 Implicit Differentiation and Related Rates – Day 2.
- 3.9 Implicit Differentiation and Related Rates – Day 3.

IV. Mean Value Theorem and applications (2 weeks)

- 4.2 Increments, Differentials, and Linear Approximation
- 4.3 Increasing and Decreasing Functions and the Mean value Theorem – Day 1.
- 4.3 Increasing and Decreasing Functions and the Mean value Theorem – Day 2.
- 4.4 The First Derivative Test and Applications – Day 1.
- 4.4 The First Derivative Test and Applications – Day 2.
- 4.4 The First Derivative Test and Applications – Day 3.

IV. Curve sketching (1 ½ weeks)

4.5 Simple Curve Sketching

4.6 Higher Derivatives and Concavity – Day 1.

4.6 Higher Derivatives and Concavity – Day 2.

VI. Anti-derivatives (1 ½ weeks)

5.2 Antiderivatives and Initial Value Problems – Day 1.

5.2 Antiderivatives and Initial Value Problems – Day 2.

5.2 Antiderivatives and Initial Value Problems – Day 3.

8.3 Separable Equations and Applications