



Course Title: Analytic Geometry & Calculus I (Part B)

Course No. MAT 131B

Class Hours: 3

Laboratory Hours: 0

Credit Hours: 2

Department Head Approval: _____
Maria DeLucia, Ph.D.

Date: 2007-2008

Dean Approval: _____
Reginald Luke, Ph.D.

Prerequisite:

MAT-131A (Analytic Geometry & Calculus – Part 1)

Textbook of Course:

<u>Title</u>	<u>Calculus Single Variable</u> 8 th Edition
<u>Author</u>	Larson/Hostetler
<u>Publisher</u>	Houghton Mifflin

Catalog Course Description:

The second half of the two-semester sequence of Analytic Geometry and Calculus I. Presents the fundamental ideas of calculus such as the derivative, integral, and their applications. Topics include fundamentals of analytic geometry and transcendental functions. This completes the first course in a sequence of calculus courses intended for the student interested in mathematics, engineering, and the natural, physical and social sciences. *TI 83 or TI 84 calculator required.*

Objectives of Course:

The student will demonstrate through quizzes, examinations, homework and projects the ability to:

1. Identify, comprehend, and manipulate abstract symbols and their use in a variety of situations.
2. Establish strong conceptual foundations.
3. Analyze mathematical situations with ideas and problem solving techniques.
4. Make decisions about solving complex problems.
5. Establish underlying mathematical models for conceptual understanding.
6. Understand and analyze data intelligently in technologically advanced society.

Day-by-Day Outline

1.	Review Differentiation	15.	5.2 The Natural Logarithmic Function: Integration
2.	Review Differentiation	16.	5.3 Inverse Functions
3.	Chapter 3 3.7 Optimization Problems	17.	5.4 Exponential Functions: Differentiation and Integration
4.	3.9 Differentials	18.	Review
5.	Chapter 4 4.1 Antiderivatives and Indefinite Integration	19.	Test 2
6.	4.2 Area	20.	5.5 Bases Other Than e and Applications
7.	4.3 Reimann Sums and Definite Integrals	21.	6.2 Differential Equations: Growth and Decay
8.	4.4 The Fundamental Theorem of Calculus	22.	6.3 Differential Equations: Separation of Variables
9.	4.5 Integration by Substitution	23.	Chapter 6 7.1 Area of a Region Between Two Curves
10.	4.5 Integration by Substitution continued	24.	Review
11.	4.6 Numerical Integration	25.	Test 3
12.	Review	26.	Catch up
13.	Test 1	27.	Review for Final
14.	Chapter 5 5.1 The Natural Logarithmic Function	28.	Review for Final

BASED ON TWO WEEK CLASS MEETINGS PER WEEK