SYLLABUS
Spring 2005
CALCULUS II (Math 1312-3)

Dr. Elaydi
Department of Mathematics

OFFICE:	MMS 115D	**OFFICE HOURS:**	M: 4:00-6:00, T: 3:00-5:00; R: 3:00-5:00, or by appointment
EMAIL:	***selaydi@trinity.edu***		
BUS. PHONE:	(210) 999-8246	**CLASS MEETS:**	MW: 2:30-3:45, MMS 140

TEXT: Edwards and Penney, *Calculus Early Transcendentals – Matrix version, 6th Edition*

OVERVIEW:

1. Techniques of Integration
2. Introduction to Differential Equations
3. Series and Sequences
4. Taylor's Theorem
5. Introduction to Vectors and Matrices

Core Topics	Optional Topics
Integration by Parts	Hyperbolics
Integration via Partial Fractions	Inverse Hyperbolics
Derivatives and Integrals of Inverse Trig. Functions	Euler's Method
Integration via Trig. Substitutions	Slope Fields
Improper Integrals	Integrating Factors
ODE Models: Exponential Growth, the Logistics Model, Mixing Problems, Oscillators	Error Bounds and Taylor Polynomials
Separation of Variables	Power Series
Solving 1st and 2nd order ODEs with Constant Coefficients	Calculating Intervals of Analyticity
Convergence of Infinite Sequences	Series Solutions of ODEs
Convergence of Infinite Series	Linear Systems
Convergence Tests: Comparison Test, Limit Comparison Test, Integral Test, Altering Series Test, Root Test, Ratio Test	Eigenvalues
Taylor's Theorem	Forced Oscillations
Introduction to Vectors	
Matrix Operations	
The Dot and Cross Product	
Lines and Planes	

HOMEWORK: Homework assignments (assigned once a week) will be posted on the blackboard and are due in class at the beginning of class on the specified due date. **Late homework will not be accepted.** You are authorized to collaborate on homework, but please submit your own work on your own paper.

EXAMS: There will be **three** exams during the regular semester and a final exam. All exams, including the final exam, are in-class. Basic scientific calculators and graphing calculators are authorized for use on all the exams.

All other resources are unauthorized. This includes, but is not limited to, books, notes, calculators with computer algebra systems (CAS), computers, PDAs, and cell phones. Course grades will be computed as follows:

GRADE CHART	
20% x 3 = 60%	Exams I, II, III
15%	Homework
25%	Final

The final percentages indicated below will ensure the following letter grades:

>90%	At least an A-
>80%	At least a B-
>70%	At least a C-
>60%	At least a D

EXAM DATES:

Exam I	Monday, February 28, 2005
Exam II	Wednesday, March 30, 2005
Exam III	Monday, April 25, 2005
Final Exam	***Tuesday, May 10, 2005, 8:30-11:30 am, MMS 140***

NOTES:

I. ***Regular attendance is a requirement in this class. Excessive absences will result in dismissal from the class.***

II. ***In the case of an excused absence (e.g., a documented illness or a sanctioned University activity), the instructor may approve a replacement for an in-class exam. Appropriate written documentation must be presented to the instructor for approval, preferably in advance.***

III. ***The Final will be given only at the scheduled date and time.***

HONOR CODE/ACADEMIC INTEGRITY POLICY: All students are covered by a policy that prohibits dishonesty in academic work. The Academic Integrity Policy (AIP) covers all students who entered Trinity before Fall 2004. The Academic Honor Code covers all those who entered Fall 2004 or later. 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. Alleged violations will be reported to the Honor Council. Students who are under the AIP will be requested to make the same pledge, which for them will mean that they acknowledge that use of unauthorized assistance will be handled by the instructor under the guidelines of the AIP. For each type of written work submitted, authorized assistance will be defined as any assistance outside of the resources specifically stated in the syllabus.