

MIDDLESEX COUNTY COLLEGE  
EDISON, NEW JERSEY

MATHEMATICS DEPARTMENT

Date: June 17, 2009

Course Title: Precalculus (Part A)

Course No. MAT 129A

Class Hours: 2

Recitation Hours: 1

Credit Hours: 2

Department Head Approval: \_\_\_\_\_  
Maria DeLucia, Ph.D.

Dean Approval: \_\_\_\_\_  
Reginald Luke, Ph.D.

**Prerequisite:**

Appropriate score on the College Placement Test and/or satisfactory score on the Diagnostic examination, "C" or better in MAT-014 or MAT-014A and MAT-014B (Algebra II), or departmental approval.

**Textbook of Course:**

**Author:** Larson, Hostetler  
**Title:** Precalculus: A Graphing Approach, 5<sup>th</sup> edition  
**Publisher:** Cengage Learning

**Supplies:**

TI 84; TI 83Plus, or TI Inspire Graphing Calculator required.

**Catalog Course Description:**

Emphasis on those topics from algebra and trigonometry that best prepare student for the first course in calculus. The areas of study are algebraic and transcendental functions and their graphs. Of special interest are polynomials, rational, exponential, logarithmic, and trigonometric functions. Additional topics include vectors, polar coordinate systems, matrices, and determinants.

**Objectives of the Course:**

1. To acquire the working knowledge of college algebra needed for later study and work.
2. To use a scientific graphing calculator, computer software, and other resources as problem solving tools.

- To develop awareness of the contributions of mathematicians from various cultures and countries.

This outline leaves time for a review session before the final exam (last class meeting) and at least 3 hourly tests.

The syllabus represents the basic minimum to be covered by an instructor.

**SUGGESTED DAY-BY-DAY OUTLINE - MAT 129A**

<u>DAY</u>	<u>SECTION</u>	<u>TOPIC</u>
1	P5	Distance formula; midpoint formula
2	More P5	Equation of a circle
3	1.1	Graphs of equations
4	2.4; 2.5	Absolute value equations; quadratic equations; quadratic like equations
5	More 2.5	Radical equations; equations containing rational exponents
6	2.6	Quadratic and rational inequalities
7	Review	
8	Test 1	
9	1.2	Lines in the plane
10	1.3	Functions
11	1.4	Graphs of functions (domain and range)
12	More 1.4	Increasing and decreasing; maximum and minimum
13	1.5	Rigid transformations
14	More 1.5	Non-rigid transformations
15	1.6	Arithmetic combinations of functions
16	More 1.6	Compositions of functions
17	1.7	Inverse functions
18	Review	
19	Test 2	
20	3.1	Quadratic functions
21	3.2	Polynomial functions
22	3.3	Real zeros; omit rational zero test
23	3.5	Rational functions and asymptotes
24	3.6	Graphs of rational functions
25	Review	
26	Test 3	
27	Review for final	
28	Final exam	