MIDDLESEX COUNTY COLLEGE
EDISON, NEW JERSEY

MATHEMATICS DEPARTMENT

Date: June 16, 2009

Course Title: **Precalculus**

Course No. MAT 129

Class Hours: **4** **Laboratory Hours:** 0 **Credit Hours:** 4

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, "B" 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, 5th 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.

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

SUGGESTED DAY-BY-DAY OUTLINE – MAT 129

DAY	SECTION	TOPIC
1	P5	Distance formula; circle
2	2.4; 2.5	Complete the square, quadratic-like equations; radical equations; equations containing ration exponents
3	2.6	Quadratic and rational inequalities
4	1.2; 1.3	Review of slope and functions
5	1.4	Graphs of Functions
6	1.5	Shifting; reflecting and stretching graphs
7	1.6	Combinations of functions; inverse functions
8	Test 1	
9	3.1	Quadratic functions
10	3.2; 3.3	Polynomial functions; real zeros of polynomial functions Omit rational zero test and Descartes Rule
11	3.5; 3.6	Rational functions; asymptotes; graphs of rational functions
12	4.1; 4.2	Exponential Functions and Their Graphs; Logarithmic Functions and Their Graphs
13	4.3; 4.4	Properties of Logarithms; Solving Exponential and Logarithmic Equations
14	4.5	Exponential and Logarithmic Models
15	Test 2	
16	5.1	Angles and their measures
17	5.2	Right Triangle Trigonometry
18	5.3	Trigonometric Functions of Any Angle
19	5.4; 5.5	Graphs of Other Trigonometric Functions
20	5.6; 5.7	Inverse Trigonometric Functions; applications
21	6.1; 6.2	Using Fundamental Identities; Verify Trigonometric Identities
22	6.3	Solving Trigonometric Equations
23	6.4	Sum and difference formulas
24	7.1	Law of Sines
25	7.2	Law of Cosines
26	Test 3	
27	Review for final	
28	Final Exam	