

# OFFICIAL SYLLABUS

## MATH 120-COLLEGE ALGEBRA

Effective Summer 2007

**CATALOG DESCRIPTION:** Cartesian coordinates, graphing, lines, parabolas, functions, inverses, roots of polynomials, rational functions and inequalities, linear systems, matrices, determinants.

**Prerequisites:** *1 years of high school algebra or 095 or equivalent with grades of C or better; and one year of high school geometry or 085 with grades of C or better.*

**Textbook:** College Algebra, By **Robert Blitzer**, Prentice Hall Inc., 5th Edition

### Chapter 1:

- 1.1 Graphs and Graphing utility
- 1.4 Complex Numbers
- 1.5 Quadratic Equations
- 1.6 Other types of Equations  
*Objectives: 1, 5*
- 1.7 Linear Inequalities and Absolute Value Inequalities

### Chapter 2:

- 2.1 Basics of Functions and Their Graphs
- 2.2 More on Functions and their Graphs  
*Objective: 1, 2, 3, 4,*
- 2.3 Linear Functions and Slope  
*Objective: 1, 2, 3, 4, 5, 6*
- 2.4 More on Slopes  
*Objective: 1*
- 2.5 Transformations of Functions  
*Objective: 1, 2, 3, 4, 5, 7 (omit 6)*
- 2.6 Combination of Functions: Composite Functions  
*Objective: 1, 2, 3*
- 2.7 Inverse Functions
- 2.8 Distance and Midpoint Formulas; Circles

### Chapter 3:

- 3.1 Quadratic Functions  
*Objective: 1, 2, 3*
- 3.2 Polynomial Functions and Their Graphs  
*Objective: 1, 2, 3, 4, 5, 6, 7*
- 3.3 Dividing Polynomials; Remainder and Factor Theorems
- 3.4 Zeros of Polynomial Functions  
*Objective: 1, 2, 3, 4*
- 3.5 Rational Functions and Their Graphs
- 3.6 Polynomial and Rational Inequalities

### Chapter 5:

- 5.1 Systems of Linear Equations in Two Variables  
*Choose simple application for objective 5*
- 5.2 Systems of Linear Equations in Three Variables

### Chapter 6:

- 6.3 Matrix Solutions Operations and their Applications  
*Objective: 1, 2, 3, 4*
- 6.5 Determinants and Cramer's Rule  
*Objective: 1, 2, 3, 4*

**Any instructor should cover all of the material specified; additional sections are optional.**