

OFFICIAL SYLLABUS

MATH 120-COLLEGE ALGEBRA

(Adopted - Fall 2006; **Committee:** T. Graville, B. Kniepkamp, M. Musa)

CATALOG DESCRIPTION: Cartesian coordinates, graphing, lines, parabolas, functions, inverses, exponential and logarithmic functions, roots of polynomials, 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., 4 th 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: 2, 3, 4, 5
- 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
- 3.6 Polynomial and Rational Inequalities
Objective: 1

Chapter 4:

- 4.1 Exponential Functions
- 4.2 Logarithmic Functions
- 4.3 Properties of Logarithms
- 4.4 Exponential and Logarithmic Equations

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.