

COLLEGE ALGEBRA
Math 1320

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1.0 Course Description

- 1.1 (3 hours) Algebraic operations, functions, graphs, linear and quadratic equations and inequalities, polynomial and rational functions, systems of equations, binomial theorem, complex numbers, exponentials, logarithms, conic sections, and combinatorics.
- 1.2 Intended for those preparing for Calculus. Required by many Colleges within the University.
- 1.3 Placement via the ACT math sub score or the Math Placement Exam within the last 2 years or MATH 1310 with a C or better within the last 2 years.
- 1.4 Unusual Circumstances: None

2.0 Objectives

- 2.1
 - 1) Determine if relations are functions, if symmetry is present, Transform functions, and recognize special classes of Functions
 - 2) Determine if lines are parallel or perpendicular, solve quadratic equations, interpret mathematical models, evaluate and solve sentences, inequalities, and sets, absolute value equations, and solve and simplify quadratic and rational inequalities.
 - 3) Evaluate polynomials, apply remainder and factor theorems, graph and find rational roots of polynomials, and decompose expressions into partial fractions.
 - 4) Find inverses; solve, graph, and simplify exponential & logarithmic functions.
 - 5) Solve systems of equations of 2 and 3 variables.
 - 6) Graph and identify ellipses, hyperbolas, parabolas, & circles, and solve systems of first and second-degree equations.
 - 7) Solve problems involving arithmetic & geometric sequences & series.
 - 8) Solve problems involving permutations, combinations, and probability.

3.0 Content and Organization

- 3.1
 - 1) Equations and inequalities
 - 2) Functions and graphs
 - 3) Polynomial and rational functions
 - 4) Exponential and logarithmic functions
 - 5) Systems of equations and inequalities
 - 6) Conic sections
 - 7) Sequences, series and probability

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4.0 Teaching Methodology

- 4.1 During the fall and spring semesters most sections are taught in the Math Lab using facilitated classroom instruction, which emphasizes group dynamics and is taught by a trained instructor. Individual assistance and videotapes are also available. Summer sessions are taught in traditional classroom lectures.

5.0 Evaluation

- 5.1 During the fall and spring semesters, 4 exams are given. Unannounced quizzes are given for a total of 24 points. A comprehensive multiple choice final worth 75 points is given at the conclusion of the semester. Attendance is recorded and a minimum of 150 minutes is required and represents approximately 10 % of the course grade, 30 points. The number of points out of the possible points determines the course grade.

6.0 Resource Material

- 6.1 College Algebra, Sixth edition, Larson and Hostetler, Houghton-Mifflin Publishers, 2004.
College Algebra Review Packet, Janice Rech and Mary Dennison, 2003.
Other sources: Scientific Calculator or Ti-83 graphing calculator (required) and Student Solution Manual.