
Effective Date: Summer 2007

Course Description

Not for degree credit. Prerequisite: Placement by ACT (see placement section of this catalog), or consent of the department. Review of arithmetic; polynomials; functions and graphs; special products and factoring; rational expressions; systems of linear equations, exponents; radicals; equations; applications of equations. (A grade of "C" or better is required to advance to College Algebra.)

Course Objectives

Students will:

1. Understand the fundamentals of beginning algebra as presented in the topical outline.
2. Develop critical thinking and problem solving skills.

Procedures to Evaluate these Objectives

1. In-class problems after concept presentation
2. In-class exams
3. Cumulative final exam

Use of Results of Evaluation to Improve the Course

1. Student responses to in-class problems will be used to immediately help clarify any misunderstandings and to later adjust the appropriate course material.
2. All exams will be graded and examined to determine areas of teaching which could use improvement.
3. All evaluation methods will be used to determine the efficacy of the material presentation.

Detailed Topical Outline

1. Review of Arithmetic
2. Exponents
 - a. Rules of Exponents
 - b. Scientific Notation
3. Equations and Inequalities
 - a. Linear Equations
 - b. Linear Inequalities
4. Applications of Linear Equations
 - a. Translating English Phrases into Algebraic Expressions
 - b. Using Equations to Solve Word Problems

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5. Polynomial Expressions
 - a. Using Substitution to Evaluate Expressions
 - b. Simplifying Polynomial Expressions
 - c. Operations With Polynomial Expressions

 6. Factoring
 - a. Factoring Out the Greatest Common Factor
 - b. Factoring Binomials
 - c. Factoring Trinomials
 - d. Factoring by Grouping
 - e. Solving Quadratic Equations by Factoring

 7. Rational Expressions and Equations
 - a. Simplifying Rational Expressions
 - b. Operations with Rational Expressions
 - c. Complex Fractions
 - d. Solving Equations containing Rational Expressions
 - e. Proportion and Variation

 8. Rational Exponents and Radicals
 - a. Radical Expressions
 - b. Rational Exponents
 - c. Simplifying Radicals
 - d. Operations with Radical Expressions
 - e. Solving Equations With Radical Expressions
 - f. Complex Numbers

 9. Solving Quadratic Equations by Using the Quadratic Formula

 10. Graphing and Functions
 - a. Rectangular Coordinate System
 - b. Graphing Linear Equations
 - c. Slope of a Line
 - d. Writing Equations of Lines
 - e. Functions and Functional Notation

 11. System of Equations
 - a. Solving Systems by Graphing
 - b. Solving Systems by Substitution
 - c. Solving Systems by the Addition Method
 - d. Applications of Systems of Equations