

COURSE OUTLINE

MATH-064

Integrated Algebra and Geometry I 3 Semester Hours

HOWARD COMMUNITY COLLEGE

Course Description

In this course, the student will develop skills in manipulating algebraic expressions with integer exponents and in simplifying polynomials and radical expressions. The student will write an equation for a line from given information. Systems of equations will be solved graphically and algebraically. Methods of factoring second-degree polynomials will also be included. The ability to solve equations will be expanded to include factorable quadratics. This course is the first in a two-part sequence needed to complete elementary algebra. Classes offered in HR326 A&B are computer-based instruction. Additional time is required in the computer lab. All sections require the use of the interactive computer program that comes with the text.

Prerequisite: MATH 061 or appropriate math placement score.

Overall Course Objectives

Upon successful completion of this course, the student will be able to:

1. Write a linear equation from information given in an application problem.
2. Solve a system of linear equations in two variables.
3. Solve application problems in two variables including percent mixture.
4. Apply the laws of exponents to algebraic expressions.
5. Divide a polynomial by a monomial and a binomial.
6. Factor second-degree polynomials.
7. Combine and simplify expressions involving radicals.
8. Solve quadratic equations by factoring and the square root method.

Major Topics

Linear Equations

Slope-intercept form

Application problems

Systems of two equations with two unknowns

Graphing method

Substitution method

Elimination method

Application problems including percent mixture and geometric

Exponents and Polynomials

Integer exponents

Addition, subtraction, multiplication and division of polynomials

Factoring

Greatest common factor

Grouping

x^2+bx+c by trial and error; ax^2+bx+c by ac method

Difference of squares

Rational Expressions

Multiplying and simplifying radicals

Quotients involving radicals

Addition and subtraction of radicals

Quadratic Equations

Solve quadratic equations that factor

Solve quadratic equations using the square root method

Application problems

Course Requirements

Grading policies are determined by the division but will include a comprehensive final exam. Credits awarded for the completion of this course do not fulfill degree requirements in any degree or certificate program and are not transferable to four-year colleges.

Academic Honesty as described in the student handbook is required of all students.