

*Montgomery College - Department of Mathematics  
Germantown Campus*

**MA091D - Elementary Algebra  
0 Semester Hours**

**Description** For students who need a review of arithmetic of nonnegative numbers and a thorough introduction to signed numbers and the basics of algebra. These basics will include polynomials, factoring, algebraic fractions, linear equations and inequalities, systems of equations, graphing, rational exponents, quadratic equations, and word problems related to all algebra skills.

MA091D meets 5 hours each week

**Prerequisites** Assessment level: RD099/103.

**Topics**

- I. Reading and writing numerals
- II. Place value and rounding
- III. Reading and writing numbers expressed as decimals
- IV. Comparing the sizes of numbers
- V. Order of operations
- VI. Unit conversions
- VII. Perimeters and areas
- VIII. Operations with signed numbers
- IX. Rational numbers and their operations
- X. Reducing fractions to lowest terms
- XI. Scientific notation
- XII. Using formulas
- XIII. Solving linear equations and inequalities in one variable
- XIV. Solving literal equations for a specified variable
- XV. Graphing linear equations in two variables
  1. Cartesian coordinate system
  2. Slope
  3. Deriving equations of lines
- XVI. Solving systems of linear equations in two variables
- XVII. Exponents
- XVIII. Polynomials
  1. Basic operations with polynomials
  2. Special products

- XIX. Factoring
  - 1. Common factors
  - 2. Trinomials
  - 3. Difference of squares
- XX. Rational expressions
  - 1. Basic operations
  - 2. Solving equations
- XXI. Radicals
  - 1. Find square roots with and without a calculator
- XXII. Quadratic equations
  - 1. Solve by factoring
  - 2. Solve by quadratic formula
  - 3. Modeling real-world applications with linear, quadratic, and/or rational equations as well as systems of linear equations.

Text

*Prealgebra and Introductory Algebra*, 2<sup>nd</sup> ed.; K. Elayn Martin-Gay, Prentice Hall.