

*Montgomery College - Department of Mathematics  
Takoma Park/Silver Spring Campus*

**MA131 – Elements of Mathematics II: Geometry and  
Algebra  
4 Semester Hours**

**Description**

This course covers proportions, percents, and real numbers; basic geometry that includes congruence, similarity, symmetry, and transformations; measurement and coordinate geometry; and algebra emphasizing multiple representations. Intended for elementary education majors, the course is also suitable for parents of school-age children.

MA131 meets 4 hours each week.

**Prerequisites**

A grade of C or better in MA 130 or consent of department.

**Topics**

- I. Proportions and Real Numbers
  1. Ratio and Proportion
  2. Percents
  3. Irrational and Real Numbers
- II. Introductory Geometry
  1. Points, Lines, Planes
  2. Polygons
  3. Solid Figures
- III. Congruence, Symmetry, and Similarity
  1. Transformations and Congruence
  2. Constructions and Congruence
  3. Symmetry
  4. Similarity and Dilations
- IV. Measurement
  1. Metric and Customary Systems
  2. Perimeter and Area
  3. Pythagorean Theorem
  4. Surface Area and Volume
  
- V. Algebra and Coordinate Geometry
  1. Multiple Representations of Functions
  2. Problem Solving

3. Coordinate Geometry

Text

*Mathematics for Elementary School Teachers: Explorations, 3<sup>rd</sup> Edition* by Bassarear. Houghton Mifflin Publishing Company.

*Teaching and Learning Middle Grades Math*, Rubenstein, Beckmann, and Thompson, Key College Publishing, 2003.