

Course: **Math 110**

Prerequisite Course: **Math 811 or Placement**

Goal: Course Description:

This is the first course in a 2-part series covering elementary and intermediate algebra. Topics include the real number system, linear equations, linear inequalities, graphing, systems of equations, integer exponents, polynomials, factoring, proportions, rational expressions, and problem solving. Students who complete this course with a C or better are advised to enroll in Math 121.

Course Content:

<p>A. The real numbers and their properties</p> <ol style="list-style-type: none">1. Real numbers and the number line2. Fractions3. Exponents and the order of operations4. Operations on real numbers5. Algebraic expressions6. Properties of real numbers <p>B. Linear equations and inequalities</p> <ol style="list-style-type: none">1. Simplifying expressions2. Solving equations3. Applications of equations4. Formulas5. Solving inequalities <p>C. Graphing</p> <ol style="list-style-type: none">1. The rectangular coordinate system2. Graphing linear equations <p>D. Systems of equations and inequalities</p> <ol style="list-style-type: none">1. Solving systems by graphing2. Solving systems by addition3. Solving systems by substitution4. Applications of systems of equations5. Solving systems of inequalities	<p>E. Polynomials and exponents</p> <ol style="list-style-type: none">1. Integer exponents2. Scientific notation3. Polynomial terminology4. Operations on polynomials <p>F. Factoring</p> <ol style="list-style-type: none">1. Greatest common factor2. Grouping3. Trinomials4. Special factoring5. Equations and problem solving <p>G. Proportion and rational expressions</p> <ol style="list-style-type: none">1. Ratios and proportions2. Simplifying rational expressions3. Operations with rational expressions4. Complex fractions5. Equations and problem solving
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Course Outcomes:

In addition to mastering the concepts in the outline, the student will be able to

- **relate variables to real quantities,**
- **develop algebraic expressions using variables,**
- **formulate equations and inequalities from verbal descriptions,**
- **interpret graphs,**
- **apply the concept of substitution, and**
- **interpret and check the solutions of equations or systems.**

Assessment: