MATH 095 – Elementary Algebra (3 Credits)

DESCRIPTION:

A course in the fundamental operations of real numbers, solving linear equations in one variable, graphing linear equations in two variables, solving linear systems in two variables, and performing basic operations on polynomials. Intended to provide a basic foundation for future mathematics needed in fields of business, economics, engineering and related fields. Strong background in fractions and positive and negative numbers is highly recommended. A comprehensive, proctored, departmental final exam will be given.

Prerequisite: A Satisfactory ACT/SAT/Placement Test Score

OUTCOMES:

At the end of the course, students will be able

   a.   to solve linear inequalities.
   b.   to solve applications involving linear equations.
   c.   to graph linear equations in two variables.
   d.   to manipulate exponential expressions using rules of exponents.
   e.   to perform operations on polynomials.
   f.   to solve systems of linear equations.

TEXT (CHOOSE ONE):

Title: *Beginning and Intermediate Algebra, 6th Edition;
**Authors**: Lial, Hornsby, and McGinnis;
Publisher: Pearson;
ISBN-13: Digital - 9780134278612, Unbound with Access Card – 9780134309484, Cloth Package with MyLab Math – 9780134277868

Title: *Beginning and Intermediate Algebra, 7th Edition;
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Publisher: Pearson;
ISBN-13: Digital - 9780135961704, Unbound with Access Card – 9780135989944, Cloth Package with MyLab Math – 9780135989920
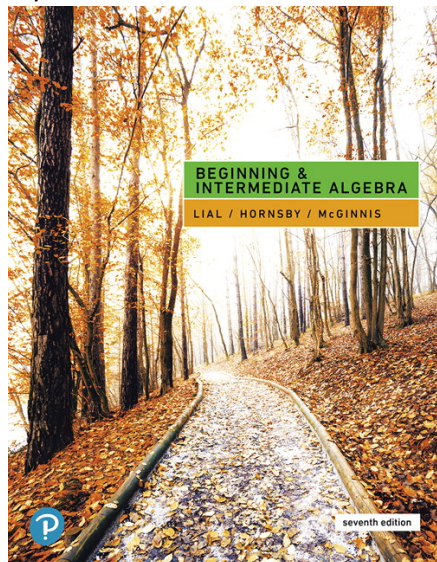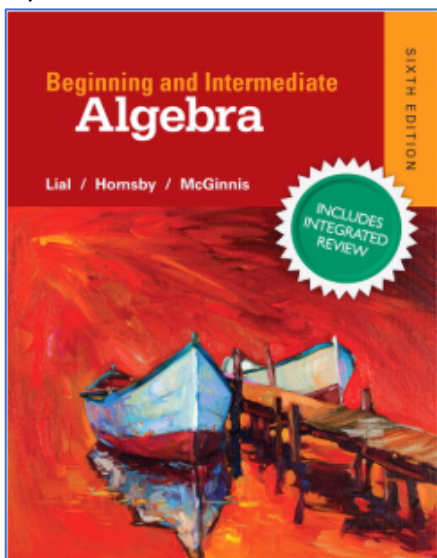
*Note: Full-time instructors have the right to use no text or a different text.

OUTLINE:

- **Linear Equations and Inequalities in One Variable**: Addition and Multiplication Properties of Equality, Solving Linear Equations, Application of Linear Equations, Formulas and Applications from Geometry, Ratio, Proportion, Percent, Solving Linear Inequalities (Lial/Hornsby/McGinnis, Sections 2.1-2.8 with 8.1, as necessary)
- **Linear Equations and Inequalities in Two Variable**: Linear Equations, Rectangular Coordinates, Graphing Linear Equations in Two Variables, Slope, Slope-Intercept and Point-Slope Forms of Linear Equations (Lial/Hornsby/McGinnis, Sections 3.1-3.5 with 7.1-7.2, as necessary)
- **Exponents and Polynomials**: The Product, Power, and Quotient Rules for Exponents, Scientific Notation, Polynomial Arithmetic, Graphing Polynomials, Special Polynomial Products (Lial/Hornsby/McGinnis, Sections 4.1-4.7)
- **Systems of Linear Equations**: Solving Systems of Linear Equations by Graphing/Substitution/Elimination (avoid systems with three or more variables), Applications (Lial/Hornsby/McGinnis, Sections 7.3-7.5, 7.7)
- **Inequalities and Absolute Value**: Set Operations, Compound Inequalities, Absolute Value Equations and Inequalities, Linear Inequalities and Systems in Two Variables (Lial/Hornsby/McGinnis, Sections 8.2-8.4; Section 8.4 should be covered after graphing lines)

EVALUATION:

Grades may be determined by student performance in one or more of the following areas: in-class tests, take-home tests, homework assignments, quizzes, special projects, papers, attendance, and class participation. Degree of importance and types of assessment used will depend on the instructor.

This course DOES NOT satisfy the Math component of a degree or certificate program at CSN.