

**Fundamentals of Mathematics I
Math 130A with ALEKS®**

Student Learning Outcomes

- 1 The students will demonstrate factual knowledge including the mathematical notation and terminology used in this course.** Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in arithmetic, geometry, and beginning algebra.
- 2 The students will describe the fundamental mathematical principles, generalizations, and properties arising from the concepts covered in this course.** Students will identify and apply the basic operations on the real numbers and polynomials; the properties of the real numbers; solving first-degree equations; and the formulas for finding perimeter, area, volume, surface area, and circumference.
- 3 The students will apply course material along with techniques and procedures covered in this course to solve problems.** Students will use the facts, formulas, and techniques learned in this course to solve a wide variety of application problems to include percent, geometry, and proportions.
- 4 The students will develop the basic skills and knowledge necessary to be successful in college-level mathematics courses.** Students will acquire a level of proficiency in the fundamental concepts of arithmetic, geometry, and beginning algebra to promote success in college-level math courses.

Course content

No Textbook.

Software: ALEKS®, *Assessment and Learning in Knowledge Spaces*, www.aleks.com.

The following objectives are covered in the ALEKS® *Beginning Algebra* course.

- 1. Arithmetic Readiness.** Whole numbers, fractions, decimals, percents, geometry, data analysis.
- 2. Real Numbers and Variables.** Integers and rational numbers, properties of real numbers, variables and algebraic expressions.
- 3. Linear Equations and Inequalities.** Linear equations, inequalities, applications.
- 4. Functions, Lines, and Systems of Equations.** Graphing linear equations, properties of lines.
- 5. Integer Exponents and Polynomials.** Exponents, polynomial arithmetic, factoring.
- 6. Rational Expressions and Proportions.** Simplifying expressions, solving equations, applications.
- 7. Radicals and Rational Exponents.** Square roots, Pythagorean Theorem