

# MATH 110 : Fundamentals of Mathematics

Fundamental operations involving whole numbers and fractions; decimals and percent; ratio and proportion; interpretation of graphs; metric and non-metric geometry; counting; combinations and permutations; introduction to algebra. Properties and axioms of the real number system; fundamental operations involving algebraic expressions; first degree equations and inequalities in one unknown; products and factoring; algebraic fractions; exponents and radicals; quadratic equations; functions and graphs; systems of equations; applications.

**Credits** 3

## **Prerequisites**

ACT/SAT Scores or Placement Test.

## **Course Outcomes**

After successfully completing the course, the learner will be able to:

- Demonstrate factual knowledge including the mathematical notation and terminology used in this course.
- Read, interpret, and use the vocabulary, symbolism, and basic definitions used in elementary algebra covering topics such as exponents, radicals, equations, inequalities, and polynomials.
- Describe the fundamental mathematical principles, generalizations, and properties arising from the concepts covered in this course.
- Identify and apply the basic operations on the real numbers and the techniques used in solving a variety of types of equations and systems of equations.
- Apply course material along with techniques and procedures covered in this course to solve problems.
- Use the facts, formulas, and techniques learned in this course to solve application problems in a variety of topics to include business, number relations, geometric situations, and proportions.
- Acquired a level of proficiency in the fundamental concepts of equation solving, algebraic manipulation, graphing, and applications to promote success in college-level math courses.

## **Competency**

Quantitative Reasoning