NorthWest Arkansas Community College
Division of Science and Mathematics

Course Number and Title - MATH 0013 PreAlgebra

Catalog Description - This course builds a strong number sense by emphasizing integers, decimals, percent, fractions, ratio and proportion. It also prepares a student to move forward with confidence into a first developmental algebra course by introducing variables, evaluating variable expressions and solving first degree equations. Elementary geometry, reading graphs, critical thinking, and problem solving skills support the AMATYC and NCTM standards. Some calculator use is incorporated. Upon successful completion, a student may take Beginning Algebra (MATH 0053 or MATH 0054).

Prerequisites - No Prerequisite

Credit hours/Contact hours/Load hours
3 credit hours/3 contact hours/3 load hours, none counting toward any degree requirements

Target Audience/Transferability
This course precedes a first full semester algebra course and is intended for college students who have had little or no algebra instruction and need a review of arithmetic and basic geometry concepts. PreAlgebra is a non-transfer course.

Student Learning Outcomes
CORE:
A student successfully completing PreAlgebra, MATH 0013, will demonstrate these primary competencies:

1) Perform operations on integers using the order of operations.
2) Simplify and evaluate variable expressions.
3) Solve a one variable first degree modeling problem situation.
4) Perform operations on fractions and decimals.
5) Solve percent and proportion problems.

6) **ADDITIONAL EMPHASIS–** A student successfully completing PreAlgebra, MATH 0013, will also:
   a) Find the perimeter and area of rectangles.
   b) Construct various graphs.
   c) Solve and check equations in one variable using integers.
   d) Recognize number sets: compare magnitudes, graph on the real number line.
   e) Simplify square roots of perfect squares and approximate square roots of non-squares using a calculator.
   f) State ratios and rates and find unit rates.
   g) Convert units of measure (includes American and Metric systems).

Topics

Order of operations with integers, fractions, and decimals;
Simplify and evaluate variable expressions (includes an introduction to solving first-degree (linear) equations);
Solve first-degree application problems, including perimeter and area problems; ratios, proportions, and percents (including similar triangle applications);
Review measurement including conversions within English and metric systems;
Create bar and circle graphs;
Some calculator use is incorporated (once decimal operations are completed).