Monroe Community College
STATE UNIVERSITY OF NEW YORK

TRS 094 – Pre Algebra

Topical Outline and Student Learning Goals

1. Module 1: Whole Numbers and The Language of Algebra
   - 1.1 Whole Number Review
     - I can round whole numbers.
     - I can perform operations on whole numbers.
   - 1.2 The Language of Algebra and Order of Operations
     - I can change between exponential and expanded form of an exponent.
     - I can simplify expressions using the order of operations.
   - 1.3 Evaluating, Simplifying, and Translating Expressions
     - I can translate between words and algebraic notation.
     - I can evaluate expressions given assigned values.
     - I can combine like terms.
   - 1.4 Solve One Step Equations
     - I can solve one step equations using addition and subtraction.
   - 1.5 Finding Multiples and Factors
     - I can generate multiples of a number.
     - I can determine all factors of a number.
   - 1.6 Prime Factorization and Least Common Multiple
     - I can find the least common multiple of two numbers.
     - I can find the prime factorization for a number.
2. Module 2: Integers and Graphing
   - 2.1 Introduction to Integers
     - I can compare integers.
     - I can simplify absolute value expressions.
   - 2.2 Adding Integers
     - I can simplify expressions involving the addition of integers.
     - I can solve applications involving the addition of integers (including algebraic applications).
   - 2.3 Subtracting Integers
     - I can simplify expressions involving the subtraction of integers.
     - I can solve applications involving the subtraction of integers (including algebraic applications).
   - 2.4 Multiplying and Dividing Integers
     - I can simplify expressions involving the multiplication and division of integers.
     - I can simplify integer expressions using the order of operations.
     - I can evaluate algebraic expressions using integers.
   - 2.5 Solving One Step Equations
     - I can solve one step equations using additive inverses with integer solutions.
     - I can solve one step equations using the division property.
   - 2.6 Graphing
     - I can navigate the rectangular coordinate system.
     - I can plot a point using an ordered pair.

3. Module 3: Fractions
   - 3.1 Introduction to Fractions
     - I can convert between improper fractions and mixed numbers.
     - I can create equivalent fractions in greater terms.
     - I can reduce fractions to lowest terms.
   - 3.2 Multiplying and Dividing Fractions
     - I can multiply fractions.
     - I can divide fractions.
   - 3.3 Multiplying and Dividing Mixed Fractions, and Complex Fractions
     - I can multiply and divide mixed numbers.
     - I can simplify complex fractions.
     - I can simplify rational expressions with the order of operations.
   - 3.4 Adding and Subtracting Fractions with Like Denominators
     - I can add or subtract fractions with the same denominator.
   - 3.5 Adding and Subtracting Fractions with Unlike Denominators
     - I can determine the least common denominator for two fractions.
     - I can add or subtract fractions with different denominators.
   - 3.6 Adding and Subtracting Mixed Numbers
     - I can add or subtract mixed numbers.
   - 3.7 Solving Equations Containing Fractions
     - I can solve fraction equations using the addition/ subtraction property of equality.
     - I can solve fraction equations using the division property, expressing fraction solutions in simplest form.
     - I can solve an equation with a fraction coefficient.
4. Module 4: Decimals and Percent
   - 4.1 Writing and Identifying Decimals
     - I can convert from decimal to fraction notation,
     - I can order and compare decimals
     - I can round decimals to an indicated place value.
   - 4.2 Decimal Operations
     - I can carry out basic operations with decimal values.
     - I can multiply or divide a decimal by a power of 10.
     - I can solve money-based applications.
   - 4.3 Order of Operations with Decimals and Fraction Relationships
     - I can apply the order of operations to expressions containing both decimals and fractions.
   - 4.4 Solving Equations with Decimals
     - I can solve one step equations that include decimal values.
   - 4.5 Writing Percent
     - I can convert between decimals and percents.
     - I can convert between fractions and percents.
   - 4.6 Solving Percent Problems
     - I can identify the parts in a percent equation.
     - I can solve percent equations for an unknown value.
   - 4.7 Percent Applications
     - I can solve application questions involving sales tax.
     - I can solve application questions involving discounts.
     - I can solve percent change problems.

4.8 Simple Interest
- I can solve basic simple interest questions.
- I can solve simple interest questions for values other than I.
- I can solve simple interest applications that give the unit of time in months.

5. Module 5: Multi-Step Linear Equations (Algebra)
   5.1 Distributive Property
   - I can apply the distributive property to an expression.
   - I can simplify an expression using the distributive property.

   5.2 Solving Equations with Distributing and Like Terms (same side)
   - I can solve two step equations. .
   - I can solve equations with like terms on the same side of the equal sign.
   - I can solve equations with distributing and like terms on the same side of the equal sign.

   5.3 Multi-Step Equations with Variables on Both Sides and Eliminating Fractions
   - I can solve equations with variables on both sides of the equation.
   - I can use a fraction clearing strategy for solving equations.

   5.4 Using Equations to Solve Applications
   - I can write an equation and use it to solve an application question.
   - I can solve comparison-based application questions.

   5.5 Coin Mixture Applications
   - I can use equations to solve coin mixture problems.

6. Module 6: Geometry
   6.1 Angle Relationships
   - I can apply the definitions of supplementary and complementary angles to solve problems.
   - I can apply the properties of the angles of a triangle to solve problems.

   6.2 Square Root, Pythagorean Theorem, and Similar Shapes
   - I can compute square roots.
   - I can apply the pythagorean theorem to find the length of a missing side of a right triangle.
   - I can use the properties of similar shapes to find unknown measurements.

   6.3 Area and Perimeter for Squares, Rectangles, and Triangles
   - I can compute the area and perimeter for rectangles and triangles.
   - I can apply an algebraic process to find missing information about a rectangle or triangle.

   6.4 Area and Circumference for Circles, and Irregular Figures
   - I can compute area and circumference for circles.
   - I can determine area and perimeter for irregular shapes.