Math Curriculum Map

Objective: TSW pass the HiSET math test:

HiSET Content Categories:	HiSET Depth of Knowledge (DOK) Levels on Hiset:	HiSET will not provide the following equations:
• Numbers and Operations on Numbers (19%) • Measurement/Geometry (18%) • Data Analysis/Probability/Statistics (18%) • Algebraic Concepts (45%)	• Level 1- Recall (20%) 1-step calculation, simple algorithm, or a formula • Level 2- Skill/Concept (73%) Process/Construct 2- or more step calculations • Level 3- Strategic Thinking (7%) Make inferences from calculations	• Distance formula • Pythagorean Theorem • Quadratic formula

College and Career Readiness Standards for Adult Education	HI Set Testing Standards	TABE Testing Level	Teaching Modules Key Concepts	UNM-G Math Level
Level A (CCSS Grades K-1/Beginning ABE) Developing understanding of addition and subtraction Developing understanding of whole number place value, tens and ones Describing shapes and space Reasoning about attributes, composition, and decomposition of geometric space Developing understanding of linear measurement			Module 1: Introduction: Math in our world and pre-test Module 2: Introduction to numbers Module 3: Adding positive integers Module 4: Subtracting positive integers Module 5: Place value: 10s and 1's Module 6: Geometric shapes Module 7: Geometric space Module 8: Linear Measurement	Orange-Stephen
Level B (CCSS Grades 2-3/ABE I)			(10 Modules)	Orange-Stephen

Extending understanding of base-10 notation Adding and subtracting to 1,000; fluency to 100 Understanding multiplication of whole numbers to 100 Understanding division as inverse of multiplication; single-digit divisors Developing understanding of fractions, especially unit fractions Using standard units of measure for linear measure Developing understanding of area Describing and analyzing 2-D shapes				
Level C (CCSS Grades 4-5 and 6/ABE II) Attaining fluency with multi-digit multiplication Developing understanding of division with multi-digit dividends Developing understanding of fraction equivalence Developing fluency with all operations with fractions	Use properties of operations with real numbers, including rational and irrational numbers. Use properties of two-dimensional figures, including formulas for area and perimeter and angle relationships. Use volume formulas and problem-solving techniques to solve for the volume or surface area of 3-dimensional		(20 modules)	Yellow-Jovena

Extending place value and understanding to decimals to 0.001 Attaining fluency with decimal operations to 0.01 Extending the number system to positive rational numbers Connecting ratio and rate to whole number multiplication and division Writing and interpreting expressions and equations Developing understanding of the coordinate plane Developing an understanding of volume and surface area Developing understanding of statistical thinking	figures (cylinders, pyramids, cones, and spheres).			
Level D (CCSS Grades 6 and 7-8/ABE III) Extending number systems to all rational numbers, including negatives Completing understanding of division of fractions, including with negative numbers Solving ratio and rate problems Applying proportional relationships	Use properties of operations with real numbers, including rational and irrational numbers. Understand transformations in the plan, including reflections, translations, rotations, and dilations. Describe a sequence of transformations to demonstrate that one two-dimensional figure is either congruent or similar to a second 2-dimensional figure.		(20 modules)	Purple-Jovena

Working with expressions and linear equations Solving linear equations and systems of linear equations Developing the concept of function Graphing in the coordinate plane Classifying geometric figures based on properties Solving problems involving scale drawings Measuring 2- and 3-D figures: area, surface area, and volume Analyzing 2- and 3-D space, using distance, angle, similarity, and congruence Applying the Pythagorean theorem Modeling bivariate data with linear equation Summarizing data using frequency and measures of center and spread Drawing inference about populations based on samples (probability distributions)	Use properties of two-dimensional figures, including formulas for area and perimeter and angle relationships. Develop a logical argument to show that such properties are valid. Understand and apply the Pythagorean Theorem. Demonstrate that two triangles are similar or congruent from criteria that is given. Use the fact that two triangles are congruent or similar to determine the values of unknown quantities. Solve real-world problems involving congruent and similar triangles. Use volume formulas and problem-solving techniques to solve for the volume or surface area of 3-dimensional figures (cylinders, pyramids, cones, and spheres). Solve problems involving supplementary, complementary, vertical, and adjacent angles. Know precise definitions of geometric terms.			

	Apply concepts of density based on area and volume in modeling situations (persons per square mile, BTUs, per cubic foot). Use equations, graphs, and tables to understand, represent, and interpret data. Identify line of best fit from a scatter plot. Interpret parts of an expression, such as terms, factors, and coefficients in terms of its context. Perform arithmetic operations on polynomials and rational expressions. Write expressions in equivalent forms to solve problems, including factoring a quadratic expression to reveal the zeros of the function it defines, completing the square to determine the minimum or maximum value of a function, or transforming exponential equations. Solve mathematical and real-world problems involving linear equations and inequalities, including			

	equations with coefficients represented by letters. Understand the concept of a function and use function notations; interpret key features of graphs and table in terms of quantities. Solve simple rational and radical equations in one variable. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original question has a solution.			
Level E (CCSS Grades 9-12/ ASE I and II) Extending understanding of number systems to the set of real numbers Operating with rational numbers using all 4 operations Recognizing irrational numbers Using radicals and integer exponents Reasoning quantitatively through using units and appropriate levels of precision	Use properties of operations with real numbers, including rational and irrational numbers. Rewrite expressions involving radicals and rational exponents using the properties of exponents. Solve problems involving scientific notation. Reason quantitatively and use units to solve problems. Choose a level of accuracy appropriate to limitations of measurement.		(40 modules split into 2 teaching levels)	Blue/Green-Jacinta

Reasoning with ratios and proportions in problems Developing understanding of functions by defining, evaluating, comparing, and modeling them Using expressions and equations to solve problems, including linear, quadratic, and exponential Solving linear inequalities Interpreting and applying the structure of expressions to problem solving Performing operations with algebraic expressions, including polynomials and rational expressions Reasoning with, modeling, and solving equations, inequalities Building, interpreting, and analyzing functions using correct notation Understanding, interpreting, and using linear, quadratic, and exponential functions as models Applying similarity and congruence concepts to geometric figures, including right triangles	Solve multi-step real-world and mathematical problems involving rational numbers and irrational numbers including proportional relationships. Apply concepts of density based on area and volume in modeling situations (persons per square mile, BTUs, per cubic foot). Use equations, graphs, and tables to understand, represent, and interpret data. Summarize data for two categories in two-way frequency tables to solve problems, including those of bivariate data, spread, and relative frequencies. Identify line of best fit from a scatter plot. Interpret the slope and the intercept of a linear model in the context of data. Use tables, lists, tree-diagrams and simulations to find the probability of compound events. Approximate the probability of a chance event. Use measures of center (mean) to draw inferences about populations including			

Using geometric models to solve measurement problems involving volume Using random sampling to summarize, describe, display, interpret, and draw inferences about populations Developing an understanding of probability concepts Summarizing, representing, and interpreting one- and two-variable data, including using frequency tables	summarizing numerical data sets and calculation of measures of center. Understand how to use statistics to gain information about a population, generalizing information about a population from a sample of the population. Interpret parts of an expression, such as terms, factors, and coefficients in terms of its context. Perform arithmetic operations on polynomials and rational expressions. Write expressions in equivalent forms to solve problems, including factoring a quadratic expression to reveal the zeros of the function it defines, completing the square to determine the minimum or maximum value of a function, or transforming exponential equations. Solve mathematical and real-world problems involving linear equations and inequalities, including equations with coefficients represented by letters.			

	Solve simple rational and radical equations in one variable. Solve systems of two linear equations, algebraically and graphically. Know when a system has 0, 1, or an infinite number of solutions. Graph linear, quadratic, square root, cube root, piecewise, absolute value, polynomial, rational, logarithmic, and exponential functions. Identify any intercepts, minima, maxima, asymptotes, and end behavior. Create equations and inequalities in one or more variables to represent relationships and use them to solve problems mathematically and in the real world. Rearrange formulas/equations to highlight a quantity of interest. Understand the concept of a function and use function notations; interpret key features of graphs and table in terms of quantities. Evaluate functions for inputs in their domains, and			

	interpret statements that use function notation in terms of a context. Write a function that describes a relationship between two quantities. For a function that models a relationship between two quantities, interpret key features given a verbal description of the relationship. Key features include: intercepts, intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. Understand domain and range of a function. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original question has a solution. Construct a viable argument to justify a solution method. Calculate and interpret the average rate of change of a function over a specified interval. Estimate rate of change from a graph.			