Wyoming Department of Education Required Virtual Education Course Syllabus

Sheridan County School District # 1

Program Name	Sheridan County School District #1 Virtual School	Content Area	MA
Course ID	AC02069	Grade Level	9 - 12
Course Name	Pre-Algebra-SE	# of Credits	1
SCED Code	02051	Curriculum Type	Acellus

COURSE DESCRIPTION

Acellus Pre-Algebra-SE was developed to provide special education students with an introduction to algebraic concepts, including the basic principles, rules, and operations of working with expressions containing variables. It also provides a strong foundation in basic mathematical concepts to prepare them for Acellus Algebra-SE. Course topics include: Whole Number Operations, Order of Operations, Fractions/Decimals/Percentages, Basic, Probabilities and Statistics, Basic Geometry, Integer Operations, Basic Graphing, Basic One-, and Two-Step Equations, Acellus Pre-Algebra-SE is based on NCTM standards.

STANDARD #	BENCHMARK (Standard/Indicator) Use the Standards and Benchmarks as Spreadsheets
A.CED.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law V = IR to highlight resistance R.*
A.REI.1	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 equation has a solution. Construct a viable argument to justify a solution method.
G.CO.7	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
G.CO.9	Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.
G.CO.10	Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180 degrees; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.
G.SRT.2	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
G.GMD.1	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.
G.GMD.3	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.*
S.IC.1	Understand statistics as a process for making inferences about population parameters based on a random sample from that population.*
S.CP.9	(+)Use permutations and combinations to compute probabilities of compound events and solve problems.*

SCOPE AND SEQUENCE

UNIT OUTLINE	STANDARD#	OUTCOMES OBJECTIVES/STUDENT CENTERED GOALS
Unit 1 – Introduction and Basic Foundation		In this unit students learn about addition, subtraction, multiplication, and division of whole numbers, and divisibility rules. They also lean about prime and composite numbers, greatest common factors, prime factorization, place value, estimating, order of operations, powers of ten, and formulas and variables.

Unit 2 – Fractions		In this unit students learn about ratios, rates, proportions, improper and mixed fractions, and simplifying fractions. They also lean about least common multiples, adding, subtracting, multiplying, and dividing fractions and mixed numbers.
Unit 3 – Decimals and Fractions		In this unit students learn about adding, subtracting, and multiplying decimals, as well as dividing decimals by whole numbers and by powers of ten. They learn about comparing and ordering decimals, and terminating and repeating decimals. They also learn about forms and types of percent and simple interest.
Unit 4 – Probability and Statistics	S.CP.9, S.IC.1	In this unit students learn about basic probability. They also learn about mean, median, mode, range, frequency tables, pictographs, bar graphs, and broken line graphs.
Unit 5 – Geometry Basics	G.CO.9, G.CO.7, G.CO.10, G.SRT.2	In this unit students learn about geometry symbols, planes, points, lines and angles. They also learn about triangles, quadrilaterals, and other polygons.
Unit 6 – More Geometry	G.GMD.1, G.GMD.3	In this unit students learn about perimeter, area and volume. They also learn about square roots and the Pythagorean Theorem.
Unit 7 – Pre-Algebra		In this unit students learn about comparing, ordering, adding, subtracting, multiplying and dividing integers, absolute value, and order of operations. Students also learn about the zero, identity, commutative, associative, and distributive properties, and basic graphing, including ordered pairs and the coordinate plane.
Unit 8 – Beginning Algebra	A.CED.4, A.REI.1	In this unit students learn about comparing, ordering, adding, subtracting, multiplying, and dividing rational numbers, as well as expressions and equations, order of operations with and without variables, and the meaning of algebraic symbols. They also learn about one- and two-step equations, decimals and fractions, formulas and literal equations.