Wyoming Department of Education Required Virtual Education Course Syllabus

BIG HORN COUNTY SCHOOL DISTRICT #1

Program Name	WYCA	Content Area	Mathematics
Course ID	CAMA79647	Grade Level	9, 10, 11, 12
Course Name	Algebra with Finance B	# of Credits	0.5
SCED Code	02155G0.5022	Curriculum Type	Connections Academy

COURSE DESCRIPTION

In the second semester of this course, the student will explore useful personal finance topics, including wages, budgeting, personal taxes, credit cards, banking choices, home and automobile financing, insurance, savings, and investments. The latter part of this course is dedicated to appreciating math in diverse fields, such as science, art, architecture, and music.

WYOMING CONTENT AND PERFORMANCE STANDARDS

STANDARD #	BENCHMARK
A.SSE.1	Interpret expressions that represent a quantity in terms of its context.*
F.TF.3	(+)Use special triangles to determine geometrically the values of sine, cosine, tangent for π/3, π/4 and π/6, and use the unit circle to express the values of sine, cosine, and tangent for π - x, π + x, and 2π - x in terms of their values for x, where x is any real number.
G.CO.2	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus
S.ID.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.*

SCOPE AND SEQUENCE

UNIT OUTLINE	STANDARD#	OUTCOMES
Unit 1: Personal Finance In this unit, you will learn how to calculate wages and how to analyze earnings based on wages and deductions. Budgeting and personal taxes are also taught in this unit.	S.ID.7	•Describe the components and different types of income •Identify characteristics of the federal income tax system •Calculate income tax cases and changes exposing any unreasonable jumps
Unit 2: Credit and Debit Introduction In this unit, you will learn about the pros and cons of using credit cards. The different types of credit cards will be discussed as well as methods for making monthly payments. There will then be a lesson that introduces simple and compound interest. The unit concludes with a discussion of banking decisions including checking accounts and debit cards.	A.SSE.1	•Calculate interest and a credit card balance •Compare the annual percentage rate and interest charges •Describe three of the charges and earnings of checking account services
Unit 3: Financial Decisions In this unit, you will be introduced to the basics of two of the biggest purchases that you will make: homes and automobiles. Financing and insuring these two purchases are the main focus of this unit. The unit concludes with a discussion of different types of savings.		•calculate monthly payments and total cost of loans •compare straight line and rapid depreciation •calculate balance owed on a financed vehicle •calculate the value of money invested over a period of time •compare the cost of taking out a loan for an item to using savings to purchase the same item
Unit 4: Life Insurance and Investment In this unit, you will learn the basics of life insurance, including coverage options and rates. The second half of this unit focuses on investments, including stocks and bonds, annuities, and retirement plans.		•Analyze the benefits and drawbacks to various types of savings plans •Identify different types of stock market investing strategies •List seven considerations that should be taken into account when deciding how to invest
Unit 5: Science In this unit, you will explore different applications of mathematics in science. The unit begins with a discussion of sine, cosine, and tangent and the way that those ratios can be used to calculate distances. Two other distance formulas are then explored and applied. The concepts of periodic motion and direct and inverse variation are covered and then applied in the form of Hooke's Law and Boyle's Law.	F.TF.3	•Use trigonometric ratios to find unknown distances •Use distance formulas to solve application problems •Use Hooke's Law to model direct variation •Use Boyle's Law to model inverse variation

Unit 6: Fine Arts In this unit, you will be introduced to geometric transformations and lines of symmetry. You will then review ratios and proportions and then see how all of these topics relate to areas of art, architecture, and music.	G.CO.2	•Recognize reflections, rotations, translations, and dilations •Determine the number and types of lines of symmetry in a given figure •Use the properties of proportions to find unknown values •Use the golden ratio and identify its use in art and architecture •Identify the uses of ratios, proportions, periodic motion, and transformations in music