Wyoming Department of Education Required Virtual Education Course Syllabus

Natrona County School District # 1

Program Name	Natrona Virtual Learning	Content Area	MA
Course ID	NCV02110.2	Grade Level	9,10,11,12
Course Name	Pre-Calculus Sem 2	# of Credits	0.5
SCED Code	02110G0.5022	Curriculum Type	Odysseyware

COURSE DESCRIPTION

Sem. 2 Pre-calculus primarily focuses on the skills and methods of analytic geometry and trigonometry while investigating further relationships in functions, probability, number theory, limits, and the introduction of derivatives.

WYOMING CONTENT AND PERFORMANCE STANDARDS

STANDARD#	BENCHMARK (Standard/Indicator) Use the Standards and Benchmarks as Spreadsheets
F.TF.2	Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
F.TF.7	(+)Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.*
G.GPE.3	(+)Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.
S.MD.3	(+)Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.*
F.IF.2	Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.

SCOPE AND SEQUENCE

UNIT OUTLINE	STANDARD#	OUTCOMES OBJECTIVES/STUDENT CENTERED GOALS
UNIT 1: Application of Trigonometric Functions	F.TF.2	Review basic trigonometric functions.Solve trigonometric functions. Review properties of right triangles.Relate the Law of Sines. Combine trigonometric functions and vectors to solve incline plane problems
UNIT 2: INVERSE TRIGONOMETRIC FUNCTIONS AND POLAR COORDINATES	F.TF.7	function. Convert equations from polar coordinates to Cartesian coordinates.
UNIT 3: Quadratic Equations	G.GPE.3	Distinguish between circles, hyperbolas, ellipses and parabolas Relate equations of circles and to their corresponding graphs. Identify the properties of an ellipse. Solve ellipse equations

UNIT 4: Counting Principles	S.MD.3	Calculate the probability of an event. Calculate the sample space of an event. Calculate circular permutations. Understand summation notation.
UNIT 5: Calculus and Review	F.IF.2	Recognize and utilize function notation. Solve functions involving numbers and conditions. Identify the difference quotient. Calculate the angle between two curves