

Wyoming Department of Education Required Virtual Education Course Syllabus

Park County School District # 1

Program Name	Park #1 Online	Content Area	Math
Course ID	OL5479	Grade Level	9th-12th
Course Name	FVS Pre-Calculus Honors (S1)	# of Credits	0.5
SCED Code	02110H0.5012	Curriculum Type	Math

COURSE DESCRIPTION

Semester-long course purchased through Florida Virtual and used for our district students. In this course students, as mathematic analysts, will investigate how advanced mathematics concepts can solve problems encountered in operating national parks. The purpose of this course is to study functions and develop skills necessary for the study of calculus. The Pre-calculus course includes analytical geometry and trigonometry. Pre-calculus is an Honors level course.

WYOMING CONTENT AND PERFORMANCE STANDARDS

STANDARD#	BENCHMARK (Standard/Indicator) Use the Standards and Benchmarks as Spreadsheets
WY.MP	Mathematical Practices
	Make sense of problems and persevere in solving them, Reason abstractly and quantitatively, Construct viable arguments and critique the reasoning of others, Model with mathematics, Use appropriate tools strategically, Attend to precision, Look for and make use of structure, Look for and express regularity in repeated reasoning
WY.N	Number and Quantity
N-CN N-VM	The Complex Number System, Vector and Matrix Quantities
WY.A	Algebra
A-SSE A-APR A-CED A-REI	Seeing Structure in Expressions, Arithmetic with Polynomials and Rational Functions, Creating Equations, Reasoning with Equations and Inequalities
WY.F	Functions
F-IF F-BF F-LE F-TF	Interpreting Functions, Building Functions, Linear and Exponential Models, Trigonometric Functions
WY.G	Geometry
G-CO G-SRT G-C G-GPE	Congruence, Similarity, Right Triangles, and Trigonometry, Circles, Expressing Geometric Properties with Equations
WY.S	Statistics and Probability
S-ID	Interpreting Categorical and Quantitative Data

SCOPE AND SEQUENCE

UNIT OUTLINE	STANDARD#	OUTCOMES OBJECTIVES/STUDENT CENTERED GOALS
01.01 Functions and Their Properties	MP.5 F.IF.A.1-3 F.IF.B.4 6 F.IF.C.7-9 F.BF.D.1-2 F.BF.E.3-5	What are functions and their properties?
01. 02 Graphs of Functions	MP.5 F.BF.D.1-2 F.BF.E.3-5	How do you graph functions?
01.03 Building Functions from Functions	MP.5 F.LE.F.1-5	How do you build functions from functions?
01.04 Inverse Functions	MP.5 F.BF.E.4 F.TF.J.8	What are inverse functions?
01.05 Graphing Transformations	MP.5 G.CO.A.1.5	How do you graph transformations?
02.01 Quadratic Functions	MP.5 A.CED.G.1	What are quadratic functions?
02.02 Polynomial Functions of Higher Degree	MP.5 F.IF.C.7	What are the characteristics of a polynomial function?
02.03 Real Zeros of Polynomial Functions	MP.5 F.IF.C.7	What are real zeros of polynomial functions?
02.04 Complex Zeros	MP.5 N.CN.D.1-3 N.CN.E.4-6	What are complex zeros?
02.05A Fundamental Theorem of Algebra	MP.5 A.CED.G.1-4 A.REI.H.1-2	What is the fundamental theorem of algebra?
02.05B Writing about Polynomials?	MP.5 A.APR.E.4 A.APR.F.6	How do you write about polynomials?
02.06 Rational Functions and Asymptotes	MP.5 F.IF.C.7 F.IF.B.4	What are rational functions and asymptotes?
02.07 Graphs of Rational Functions	MP.5 F.IF.C.7	How do you graph rational functions?
03.01 Exponential and Logistic Functions	MP.5 F.LE.F.1-2 S.MD.I.4	What are exponential and logistic function?
03.02 Exponential and Logistic Modeling	MP.5 S.MC.I.6	What is exponential and logistic modeling?

03.03 Logarithmic Functions and Their Graphs	MP.5 A.REI.K.11	What are logarithmic functions and how do you graph them?
03.04 Properties of Logarithms	MP.5 A.REI.K.11	What are the properties of logarithms?
03.05 Equation Solving	MP.7 A.REI.H.2 A.CED.G.4	How do you solve equations?
04.01 Angles and Their Measure	MP.5 G.CO.C.9 G.SRT.G.6	What are angles and their measure?
04.02 Trig Functions of Acute Angles	MP.5 G.SRT.G.7 F.TF.I.5 F.TF.I.7	What are the trig functions of acute angles?
04.03 Trig Functions: The Unit Circle	MP.5 F.TF.H.1-3	What is the unit circle?
04.04 Trig Function of Any Angle	MP.5 G.SRT.G.7 F.TF.I.5 F.TF.I.7	What is the trig function for any angle?
04.05 Graphs of Sine and Cosine Functions	MP.5 G.SRT.G.7	How do you graph sine and cosine functions?
04.06 Graphs of Other Trig Functions	MP.5 F.TF.H.3 G.C.I.2 F.TF.J.9	What are some graphs of other trig functions?
04.07 Inverse Trigonometric Functions	MP.5 F.TF.I.7	What are inverse trigonometric functions?
04.08 Solving Problems with Trigonometry	MP.5 F.TF.I.5 F.TF.I.6 F.TF.I.7	How do you solve problems with trigonometry?
05.01 Using Fundamental Identities	MP.5 G.CO.C.9 G.SRT.G.6	What are angles and their measure?
05.02 Solving Trigonometric Equations	MP.5 G.SRT.G.7 F.TF.I.5 F.TF.I.7	What are the trig functions of acute angles?
05.03 Proving Trigonometric Equations	MP.5 F.TF.H.1-3	What is the unit circle?
05.04 Sum and Difference Formulas	MP.5 G.SRT.G.7 F.TF.I.5 F.TF.I.7	What is the trig function for any angle?
05.05 Multiple-Angle Formulas	MP.5 G.SRT.G.7 F.TF.I.5 F.TF.I.7	How do you graph sine and cosine functions?