

Pre-calculus Curriculum Map Quarter 1 – Chapters P – 2	
Student Targets:	New Vocabulary
<p>I can...</p> <ul style="list-style-type: none"> • Plot points in the coordinate plane and use distance and midpoint formulas. • Sketch graphs of equations. • Find and use slope of a line to write and graph linear equations. • Solve equations: linear, quadratic, polynomial, radical, fraction, and absolute value. • Solve inequalities: linear, absolute value, polynomial, and rational. 	<ul style="list-style-type: none"> • Extraneous • Critical numbers • Test intervals
<ul style="list-style-type: none"> • Evaluate functions and find their domains. • Analyze graphs of functions. • Identify and graph shifts, reflections, and non-rigid transformations of functions. • Find inverses of functions graphically and algebraically. 	<ul style="list-style-type: none"> • Implied domain • Increasing • Decreasing • Relative maximum • Relative minimum • Even function • Odd function • Rigid transformation • Non-rigid transformation • Arithmetic combination • One-to-one • Horizontal line test
<ul style="list-style-type: none"> • Sketch and analyze graphs of quadratic and polynomial functions. • Use long division and synthetic division to divide polynomials by other polynomials. • Determine the number of rational and real zeros of polynomial functions, and find them. • Perform operations with complex numbers and plot complex numbers in the complex plane. • Determine the domain, find asymptotes, and sketch the graphs of rational functions. 	<ul style="list-style-type: none"> • Continuous • Extrema • Intermediate value theorem • Upper/lower bound • Fundamental theorem of algebra • Horizontal asymptote • Oblique asymptote

Pre-calculus Curriculum Map Quarter 2 – Chapters 3 – 4	
Student Targets:	New Vocabulary:
<p>I can...</p> <ul style="list-style-type: none"> • Recognize, evaluate, and graph exponential and logarithmic functions. • Rewrite logarithmic functions with different bases. • Use properties of logarithms to evaluate, rewrite, expand, or condense logarithmic expressions. • Solve exponential and logarithmic equations. • Use exponential growth models, exponential decay models, Gaussian models, logistic models, and logarithmic models to solve real-life problems. • Fit exponential and logarithmic models to sets of data. 	<ul style="list-style-type: none"> • Transcendental functions • Exponential/logarithmic function • Gaussian model • Logistic growth model • Logistic curve
<ul style="list-style-type: none"> • Describe an angle and convert between degree and radian measure • Identify a unit circle and its relationship to real numbers. • Evaluate trig functions of any angle. • Use fundamental trig identities. • Sketch graphs of trig functions. • Evaluate inverse trig functions. • Evaluate composition of trig functions. • Use trig functions to model and solve real life problems. 	<ul style="list-style-type: none"> • Trigonometry • Coterminal angles • Central angle • Radian • Linear/angular speed • Unit circle • Periodic/period • Reference angle • Amplitude • Phase shift

Pre-calculus Curriculum Map Quarter 3 – Chapters 5 – 7	
Student Targets:	New Vocabulary:
<p>I can...</p> <ul style="list-style-type: none"> • Use fundamental trig identities to evaluate trig functions and simplify trig expressions • Verify trig identities • Use standard algebraic techniques and inverse trigonometric functions to solve trig equations. 	<ul style="list-style-type: none"> • Reduction formulas • Double-angle formulas • Power-reducing formulas • Half-angle formulas • Product-sum formulas • Sum-product formulas
<ul style="list-style-type: none"> • Use the law of sines and law of cosines to solve oblique triangles. • Find areas of oblique triangles. • Represent vectors and directed line segments and perform mathematical operations on vectors • Find direction angles of vectors. • Find the dot product of two vectors and use properties of the dot product. • Use vectors to solve real-life problems. 	<ul style="list-style-type: none"> • Oblique triangle • Law of Sines • Law of Cosines • Heron’s area formula • Directed line segment • Vector • Standard position • Component form • Magnitude • Unit vector • Linear combination • Direction angle • Dot product • Orthogonal • Projection

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- Solve systems by substitution, elimination, Gaussian elimination, and graphing.
- Sketch and solve systems of inequalities.
- Solve linear programming problems.
- Use systems of equations and inequalities to model and solve real-life problems.

- Row-echelon form
- Gaussian elimination
- Partial fraction
- Partial fraction decomposition
- Optimization
- Constraints
- Feasible solutions

Pre-calculus Curriculum Map Quarter 4 – Chapters 9 and 10	
Student Targets:	New Vocabulary:
<p>I can...</p> <ul style="list-style-type: none"> • Use sequence, factorial, and summation notation to write the terms and sums of sequences. • Recognize, write, and use arithmetic sequences and geometric sequences. • Use the binomial theorem and Pascal's triangle to calculate binomial coefficients and write binomial expansions. • Solve counting problems using the Fundamental Counting Principle, permutations, and combinations. • Find the probability of events and their complements 	<ul style="list-style-type: none"> • Infinite sequence • Finite sequence • Recursive • Factorial • Summation/sigma notation • Infinite series • Finite series/nth partial sum • Binomial Theorem
<ul style="list-style-type: none"> • Write the standard equations of parabolas, ellipses, and hyperbolas. • Analyze and sketch the graphs of parabolas, ellipses, and hyperbolas. • Solve systems of quadratic equations. • *Rewrite sets of parametric equations as rectangular equations and find sets of parametric equations for graphs. • *Write equations in polar form. • *Graph polar equations and recognize equations in polar form. • *Write equations of conics in polar form. * - time permitting 	<ul style="list-style-type: none"> • Conic • Ellipse • Eccentricity • Hyperbola • Transverse axis • Asymptotes • Parameter • Parametric equations • Polar coordinate system