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| **Precalculus Honors** |
|  | **Description of Average Weekly Outside Requirements** |
| **Main Topics****(What main ideas/concepts are covered):*** Functions and their Graphs
* Polynomial and Rational Functions
* Exponential and Ratioanal Functions
* Trigonometric Functions
* Vectors
* Conic Sections
* Sequences and Series
* Introduction to Limits
 | **Rationale****(Why a student should take this course):** A student should take this course to further their understanding of advanced mathematical concepts that will lead to taking a course in Calculus, whether is be an AP Calculus course or a Calculus course in a community college/university setting. | **Reading****(Text, document, etc.):*** Reviewing daily notes from class
* Occasional reading from textbook
 | **Written****(Terms, questions, outlines, free response, etc.):*** Daily assignments are given to reinforce the topics that have been presented in class
* Students are expected to study independently in preparation for quizzes and tests.
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| **Grade Composition****(How grades are determined):*** Daily assignments
* Classwork
* Quizzes
* Tests
 | **Skill Development****(Skills developed in this course and how):**The skills that are developed in the course are upper level Algebra skills with an emphasis on higher order functions and Trigonometric skills which will be beneficial for studying a course in Calculus. These skills will be developed throughout the Precalculus course. | **Sample Textbook Excerpt:**1. Use the Law of Cosines to Solve a Triangle (SAS): a = 13, c = 6, and θ = $20°$.
2. Graph: $f\left(x\right)=log\_{5}\left(x+3\right)-1$
3. The equation used to convert from degrees Celsius to degrees Fahrenheit is $f\left(x\right)=\frac{9}{5}x+32.$ Determine the inverse function $f^{-1}\left(x\right).$ What does the inverse function represent?
4. Simplify: $\tan(x)\sin(x)+\cos(x.)$
5. Graph the hyperbola $9x^{2}-16y^{2}-18x+32y-151=0.$
6. Graph the curve defined by the parametric equations $x=t^{2}$

 $y=t-1$ $t in [-2, 2]$. |
| **Required Skills****(Skills necessary to be successful in this course)*** Analytical Thinking
* Strong work ethic
* Foundational skills in Algebra and Geometry
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