

	Unit 5 and 6: Polynomials Unit 7: Rational Expressions Unit 8: Trigonometric Functions Unit 9: Statistics
Course Connections to PPS ReImagined Vision	Students with a solid foundation in advanced algebra will be in a strong position to be successful in any math class or career which requires mathematical thinking.

Section 3: Student Learning

Prioritized Standards	<p>The following standards will be explored in the course:</p> <p>Unit 1: Equations and Inequalities HSA.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions.</i></p> <p>Unit 2: Parent Graphs HSA.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. HSF.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*</i> HSF.IF.C.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* HSF.IF.C.7.B Graph square root, cube root, and absolute value functions. HSF.BF.B.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. HSF.IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. <i>For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*</i></p> <p>Unit 3 and 4: Inverses, Logarithms and Exponentials HSF.LE.A.4 For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology. HSF.IF.C.7.E Graph exponential and logarithmic functions, showing intercepts and end behavior.</p> <p>Unit 5 and 6: Polynomials HSA.APR.A.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. HSA.APR.B.3 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.</p>
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	<p>HSF.IF.C.7.C Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.</p> <p>Unit 7: Rational Expressions</p> <p>Priority Standards:</p> <p>HSA.APR.D.6 Rewrite simple rational expressions in different forms; write $\frac{a(x)}{b(x)}$ in the form $q(x) + \frac{r(x)}{b(x)}$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.</p> <p>Unit 8: Trigonometric Functions</p> <p>HSF.TF.A.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.</p> <p>HSF.TF.B.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.*</p> <p>HSF.IF.C.7.E Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.</p> <p>Unit 9: Statistics</p> <p>HSS.ID.A.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve</p> <p>HSS.IC.B.6 Evaluate reports based on data.</p>
<p>PPS Graduate Portrait Connections</p>	<p>I will help students grow their knowledge and skills in the following aspects of PPS's Graduate Portrait: Students will explore problem solving and discover for themselves math content through guided investigation. Working collaboratively they can learn leadership skills, empathy and respect for multiple perspectives.</p>
<p><i>Differentiation/ accessibility strategies and supports:</i></p>	<p>I will provide the following supports specifically for students in the following programs:</p> <p><i>Special Education: As provided in the student IEP.</i></p> <p><i>504 Plans: As provided in the 504 plan.</i></p> <p><i>English Language Learners: Materials will be presented in a variety of ways. Verbal, written and technology based.</i></p>



	<i>Talented & Gifted: Students will be given the opportunity to demonstrate understanding in a variety of ways and materials will be differentiated to allow students to extend their knowledge.</i>
<i>Personalized Learning Graduation Requirements (as applicable in this course):</i>	<input type="checkbox"/> Career Related Learning Experience (CRLE) #1 <input type="checkbox"/> Career Related Learning Experience (CRLE) #2 <i>-The experience(s) will be:</i> <input type="checkbox"/> Complete a resume <input type="checkbox"/> Complete the My Plan Essay

Section 4: Cultivating Culturally Sustaining Communities

Tier 1 SEL Strategies	
<i>Shared Agreements</i>	<p>I will facilitate the creation of our Shared Agreements that respects and celebrates each student’s race, ability, language, and gender identity in the following way(s):</p> <p>We will follow class created norms. Students will have the opportunity to work with all other students in the class throughout the year. Also, there will be multiple learning opportunities to match students’ various learning styles.</p>
	<p>I will display our Agreements in the following locations:</p> <p>On the overhead during group work.</p>



	<p>My plan for ongoing feedback through year on their effectiveness is:</p> <p>I will check in with students individually on Fridays. I will conduct a class survey twice each semester.</p>
<p><i>Student's Perspective & Needs</i></p>	<p>I will cultivate culturally sustaining relationships with students by:</p> <p>Having students check in privately and individually through a Desmos check in every day. I will also attempt to have a personal conversations with students each day.</p>
<p><i>Empowering Students</i></p>	<p>Families can communicate what they know of their student's needs with me in the following ways:</p> <p>E-mail and parent teacher conferences.</p> <p>I will celebrate student successes in the following ways:</p> <p>Providing stamps and rewards and good grades.</p>



	<p>I will solicit student feedback on my pedagogy, policies and practices by:</p> <p>Individual meetings and class surveys.</p>
	<p>When class agreements aren't maintained (i.e. behavior) by a student I will approach it in the following ways:</p> <p>Individual meetings and, as necessary, class meetings to determine if agreements should be changed.</p>
<i>Showcasing Student Assets</i>	<p>I will provided opportunities for students to choose to share and showcase their work by:</p> <p>Students will collaborate on everything and have opportunities to demonstrate their understanding to the whole class.</p>

Section 5: Classroom Specific Procedures



<i>Safety issues and requirements (if applicable):</i>	Masks will be worn and windows kept open to the extent possible.
<i>Coming & Going from class</i>	I understand the importance of students taking care of their needs. Please use the following guidelines when coming and going from class: Keeping students in the class during the first and last 10 minutes of class.
<i>Submitting Work</i>	I will collect work from students in the following way: Work in this class will not be collected.
	If a student misses a deadline, I will partner with the student in the following ways so they have the ability to demonstrate their abilities: This time can be used for students to work on materials missed during advanced algebra class.
<i>Returning Your Work</i>	My plan to return student work is the following: Not applicable
<i>Formatting Work (if applicable)</i>	Directions on how to format submitted work (ex. formal papers, lab reports, etc) can be found here:
<i>Attendance</i>	If a student is absent, I can help them get caught up by: Use of Canvas with on-line material.

Section 6: Course Resources & Materials

<i>Materials Provided</i>	I will provided the following materials to students: warm-ups and extra practice worksheets
<i>Materials Needed</i>	Please have the following materials for this course: spiral notebook, folder, pencil.
	<i>Franklin can help with any materials you may need as well. Please reach out to me privately and I will help you get what you need.</i>
<i>Course Resources</i>	Here is a link to resources that are helpful to students during this course: Canvas
<i>Empowering Families</i>	The following are resources available for families to assist and support students through the course: Canvas

Section 7: Assessment of Progress and Achievement



<i>Formative Assessments</i>	As students move through the learning journey during specific units/topics, I will assess & communicate their <u>progress</u> in the following ways: Feedback during class work.
<i>Summative Assessments</i>	As we complete specific units/topics I will provide the following types of opportunities for students to provide evidence of their <u>learned</u> abilities: Written exams during advanced algebra class.
<i>Student Role in Assessment</i>	Students and I will partner to determine how they can demonstrate their abilities in the following ways: If needed students can submit tests verbally.
Section 8: Grades Progress Report Cards & Final Report Cards	
<i>Accessing Grades</i>	Students & Families can go to the following location for <u>up-to-date</u> information about their grades throughout the semester: Synergy/ParentVue
	I will update student grades at the following frequency: After each unit test or test retake.
<i>Progress Reports</i>	I will communicate the following marks on a progress report: Pass: Student has attended class and completed warm-ups. No Pass: Students does not attend or participate.
<i>Final Report Card Grades</i>	The following system is used to determine a student's grade at the end of the semester:
	I use this system for the following reasons/each of these grade marks mean the following:



	Other Needed info (if applicable)

