Syllabus: Practices & Policies

2021-2022	Franklin High School

Section 1: Course Overview

Course Title	Algebra 3-4
Instructor Info	Name: Erika Johnson Contact Info: ejohnso3@pps.net
Grade Level(s)	9-12
Room # for class	Room: S-158
Credit	Type of credit: Math # of credits per semester: 0.5
Prerequisites (if applicable)	Successful completion of Algebra 1-2 and Geometry
General Course Description	A study of advanced algebra skills with an emphasis on evaluating and graphing functions.

Section 2: Welcome Statement & Course Connections

Personal Welcome	**Hello. I am excited to teach Advanced Algebra. My goal is to make this class interesting and help to prepare you for future math explorations wherever they may take you.**
Course Highlights *(topics, themes, areas of study)*	**Unit 1: Equations and Inequalities** **Unit 2: Parent Graphs** **Unit 3 and 4: Inverses, Logarithms and Exponentials**

	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	The following standards will be explored in the course: **Unit 1: Equations and Inequalities** HSA.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions.* **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. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.** 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. *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.** **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. **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.

	HSF.IF.C.7.C Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. **Unit 7: Rational Expressions** **Priority Standards:** **HSA.APR.D.6** Rewrite simple rational expressions in different forms; write $^{a(x)}/_{b(x)}$ in the form $q(x) + {}^{r(x)}/_{b(x)}$, 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. **Unit 8: Trigonometric Functions** **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. **HSF.TF.B.5** Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.* **HSF.IF.C.7.E** Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. **Unit 9: Statistics** **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 **HSS.IC.B.6** Evaluate reports based on data.
PPS Graduate Portrait Connections	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.
Differentiation/ accessibility strategies and supports:	I will provide the following supports specifically for students in the following programs: *Special Education: As provided in the student IEP.* *504 Plans: As provided in the 504 plan.* *English Language Learners: Materials will be presented in a variety of ways. Verbal, written and technology based.*

	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.
Personalized Learning Graduation Requirements (as applicable in this course):	☐ Career Related Learning Experience (CRLE) #1 ☐ Career Related Learning Experience (CRLE) #2 *-The experience(s) will be:* ☐ Complete a resume ☐ Complete the My Plan Essay

Section 4: Cultivating Culturally Sustaining Communities

Tier 1 SEL Strategies	
Shared Agreements	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): 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.
	I will display our Agreements in the following locations: On a poster in the front of the room

	My plan for ongoing feedback through year on their effectiveness is: I will conduct a class survey twice each semester.
Student's Perspective & Needs	I will cultivate culturally sustaining relationships with students by: By checking in with students as a group, and privately and individually
	Families can communicate what they know of their student's needs with me in the following ways: E-mail, Remind, and parent teacher conferences.
Empowering Students	I will celebrate student successes in the following ways: Providing stamps, rewards, encouragement, and praise for trying, for practicing, for helping others, for completing the task, and for showing understanding of the skills/learning targets..

	I will solicit student feedback on my pedagogy, policies and practices by: Individual meetings, class surveys, Exit Tickets, etc,.
	When class agreements aren't maintained (i.e. behavior) by a student I will approach it in the following ways: Individual meetings and, as necessary, class meetings to determine if agreements should be changed.
Showcasing Student Assets	I will provided opportunities for students to choose to share and showcase their work by: Investigations, Practice Work, and Exit tickets. Students will collaborate on everything except individual assessments.

Section 5: Classroom Specific Procedures

Safety issues and requirements (if applicable):	Students will wear masks at all times, air purifiers will be on, hand sanitizer, and cleaning materials provided. Windows will be kept open to the extent possible.
Coming & Going from class	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.
Submitting Work	I will collect work from students in the following way: Exit Tickets and Tests will be collected and returned with feedback. Practice work and warmups will be stamped for completion.
	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: Students can retake tests at any time during the semester during tutorial.
Returning Your Work	My plan to return student work is the following: *Timeline: Exit Tickets by the following class. Tests with opportunity for revision by the following class.* *What to look for on your returned work: Feedback.* *Revision Opportunities: Throughout the semester.*
Formatting Work (if applicable)	Directions on how to format submitted work (ex. formal papers, lab reports, etc) can be found here: All steps to solving the various math problems should be shown.
Attendance	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

Materials Provided	I will provided the following materials to students: investigations and practice worksheets
Materials Needed	Please have the following materials for this course: spiral notebook, folder, pencil. *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.*
Course Resources	Here is a link to resources that are helpful to students during this course: Canvas
Empowering Families	The following are resources available for families to assist and support students through the course: Canvas

Section 7: Assessment of Progress and Achievement	
Formative Assessments	As students move through the learning journey during specific units/topics, I will assess & communicate their *progress* in the following ways: Feedback on Exit tickets.
Summative Assessments	As we complete specific units/topics I will provide the following types of opportunities for students to provide evidence of their *learned* abilities: Written exams.
Student Role in Assessment	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	
Accessing Grades	Students & Families can go to the following location for up-to-date 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.
Progress Reports	I will communicate the following marks on a progress report: **89.5-100% - A** **79.5-89.4% - B** **69.5-79.4% - C** **59.5-69.4% - D** **0-59.% - F**

Final Report Card Grades	The following system is used to determine a student's grade at the end of the semester: 100% test, including the final exam.
	I use this system for the following reasons/each of these grade marks mean the following: Students are graded based upon demonstration of proficiency.
Other Needed info (if applicable)	