Spaulding High School 2021-2022 Course Syllabus

Course Title: Algebra 2 Department: Mathematics Teacher Contact Information: Danielle Brizzolara; dbrizshs@buusd.org Department Chair Contact Information: Erin Carter; 802-476-4811 ext. 2100; ecartshs@buusd.org

Course Description:

This is a one-semester course with a rapid progression of topics such as: recursion, functions, relations, transformations, exponential and logarithmic properties, composite and inverse functions, higher degree polynomials and quadratics. The examination of these topics is embedded in real life situations such as projectile motion and modeling. To be successful students must complete daily work and be disciplined to read, listen, and think independently.

Topics/Areas of Study/Units of Study:

See attached standards and performance indicators.

Materials/Text(s):

Some of these will be required on tests/quizzes.

- Graphing Calculator: TI-83 plus or TI-84
- 3-ring binder (2"-21/2")
- Composition Book
- Pencils and erasers
- Loose-leaf Paper
- Graph Paper
- Chromebook

Replacement cost(s): No book will be given out.

Practice:

The practice will be done in-person and at home. Assignments and notes will be posted on the Google Classroom for students to refer back to. For asking questions or getting clarification, students should be attending Academic Advisory or signing up for Tide Pool for more support.

Assessment/Reassessment:

Review is done the day before the test. In order to take an assessment, the review assignment MUST BE DONE (some copies of the key will be printed, otherwise it will be posted on the classroom to check answers).

In order to reassess, students must complete extra practice for the indicator that they need, as well as test corrections. Test corrections must be done during advisory, extra practice may be done outside of the classroom. You will not be able to reassess the same day you turn in the reassessment packet. Reassessments will occur during advisory in the classroom.

Academic Expectations

- Be Respectful. Not being respectful will result in a warning. If it continues, then a write up will follow.
- Cell phones are to be turned in at the beginning of class. If there is an emergency, please let me know ahead of time.
- Unless asked to use it for class, chromebooks should remain put away.
- Headphones and earbuds will not be permitted at any time.
- Apple Watches and similar electronic devices will be removed for tests.
- If you are going to be absent from class I expect you to go to the google classroom to get the notes and the homework assignment. Please contact me if you're confused about the material and we can set up advisory time to work together when you return. If you miss a quiz or a test, it is your responsibility to make arrangements to make it up within 48 hours.
- Every student is expected to make mistakes, but to succeed, students must learn from them.
- You will be assigned a group or partner during class, which will change each unit. You are expected to work with your group as instructed. You may not opt to work alone or with another group.
- If you find you're struggling with the content, I expect you to sign up for advisory or arrange some tutorial times for you with Mr. Willis in Tide Pool.
- Cheating could result in inability to earn Exemplary in the class. <u>Cheating will not</u> be tolerated in this course. Spaulding High School has an academic honesty policy, which I expect everyone in this course to follow. In this course, cheating includes copying of assignments as well as cheating on quizzes and tests. If you cannot, when work is returned, do by yourself problems that seem copied, then I will assume you cheated. This does not mean that you cannot work with others, but in the process you must learn how to do the work. Please note cheating works both ways. If you allow someone to copy your work, you will also receive the same consequences.

List of Assessed Course Standards:

See attached list of Standards and Performance Indicators.

Algebra 2 Standards Checklist 2021-2022

Standard		Indicator		Current Proficiency	
 A. Functions and Transformations → #1 NEEDS to be Proficient → Need 1 more to be Proficient for Proficient in standard. The rest MUST be Developing or better. 	1	★ Understand how transformations apply to all functions and relations			
	2	Composition of functions			
	3	Graph piecewise functions, including step functions			
 B. Fun with Polynomials of all Orders → #1-2 NEEDS to be Proficient → Need 2 more to be Proficient for Proficient in standard. The rest MUST be Developing or better. 	1	★ Factoring Quadratics			
	2	\star Identify real and complex zeros of polynomials			
	3	Add, subtract, and multiply polynomials			
	4	Factoring cubics			
	5	Sketch a graph showing key features and end behavior			
	6	Apply the Rational Root Theorem			
 C. Quadratics → #1-2 NEEDS to be Proficient → Need 1 more to be Proficient for Proficient in standard. The rest MUST be Developing or better. 	1	\star Use quadratic formula to find real and complex roots			
	2	★ Write, interpret and convert between quadratic functions in General, Factored and Vertex forms			
	3	Use quadratic functions to model projectile objects			
	4	Simplify and rationalize radicals			
	5	Operations with complex numbers			
 D. Rational Functions → #1-2 NEEDS to be Proficient → Need 1 more to be Proficient for Proficient in standard. The rest MUST be Developing or better. 	1	\star Rewrite simple rational expressions using division			
	2	★ Identify key features and extraneous solutions in rational functions and sketch their graphs			
	3	Add, subtract, multiply, and divide rational expressions			

F. Exponents, Exponential Functions, and		\star Apply integer and non-integer exponent properties		
→ #1-4 NEEDS to be Proficient	2	★ Write equations in point-ratio form, create functions to model exponential situations, and convert to general form		
	3	★ Apply Log properties		
→ The rest MUST be Developing or better.		★ Use Logs to solve exponential equations		
		Solve exponential equations using exponent properties		
		Find inverse of functions and relations		
G. Trigonometry → #0 NEEDS to be Proficient	0	★ Special right triangles		
	1	Extend the domain of trig functions using the unit circle		
H. Series → Need 2 or more to be Proficient for Proficient in standard. The rest MUST be Developing or better.	1	Partial sums for Arithmetic Series		
	2	Use finite geometric series to solve problems		
	3	Convergent Infinite Geometric Series		

The **shaded standards** and \star indicators need to be Proficient in order to receive credit for the class.

To be Partially Proficient in the course, *ALL* **shaded standards** plus 1 more, AND *ALL* of the **★** indicators NEED to be Proficient, with no standards/indicators at Beginning or No Evidence.

To be Proficient in the course, *ALL* covered standards MUST be Proficient.

To be Partially Exemplary, you must meet the Proficient level and have at least one standard be Exemplary.

To be Exemplary, you must meet the Proficient level and have a majority of standards at the Exemplary level .

- For a *standard* to be Exemplary, the majority of indicators need to be Exemplary, with **NO** indicators below Proficient.
- For a *standard* to be Proficient, the majority of indicators need to be Proficient or better, with **NO** indicators at or below Beginning.

For a *standard* to be Developing, any indicator in the standard is Beg, or less than a majority is Prof.

For a *standard* to be Beginning, any indicator in the standard is NE, or majority beginning.

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2021-2022 Overall Course Performance Grading Guideline

COURSE PERFORMANCE RATING	GPA Value	GRADING CRITERIA
Exemplary	4.0	 All standards are Exemplary or Proficient, AND Majority of standards are Exemplary
Partially Exemplary	3.5	All standards are Exemplary or Proficient, with at least one standard being Exemplary
Proficient	3.0	All standards are Proficient
Partially Proficient	2.5	 All required standards are Exemplary or Proficient, AND Majority of standards are Proficient, AND No standards are Beginning or Insufficient Evidence
Developing	2.0	Majority of standards are Developing.
Beginning	1.0	Majority of standards are Beginning.
Insufficient Evidence	0.0	• Majority of the standards are Insufficient Evidence.

*Honors and AP courses would add an additional 0.33 to the GPA score.

The guideline is used to assess an overall course performance. When the guideline does not completely represent the situation, professional discretion will be used.