Algebra 1 Part B

Spaulding High School
Spring 2022 Course Syllabus

Course Title: Algebra 1 Part B
Department: Mathematics
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Course Description:

In this course, students examine such topics as exponential growth and decay, transformations and quadratics. The examination of the topics is embedded in real-life situations and applications, and includes investigations where students construct their own understanding of the mathematical concepts. Algebra students will be expected to follow directions and be disciplined to read, listen and think on their own. To be successful, the student must complete daily assignments and be able to work cooperatively as well as independently and remotely.

Topics:

Creating and Solving Equations, Graphing, Multiple Representations, Statistics, and Modeling

Unit 7: Exponential Functions (**A3P, C4P, D3P, D4P, D5P, G4P, G5P**, A9E, D8E)

Unit 8: Transformations (**A6P, C6P**, C10E, D6E)

Unit 9: Rational Functions (**A4P**, C11E)

Unit 10: Quadratics

    10.1 - General, Factored, and Vertex Form (**A5P, B4P, C5P**)

    10.2 - Factoring and Quadratic Formula (**B5P, B6P**, B9E, B10E, D7E)

Unit 11: Probability (**F3P, F4P**, F7E)

Note: all bold indicators are required proficient indicators to pass the course. All unbolded indicators are exemplary and above and beyond.

Materials:

- ***Graphing Calculator:*** TI-83 Plus or TI-84
  Please access our scholarship calculator program if needed!! This is a great program that provides calculators to students who otherwise wouldn't be able to purchase one. This calculator will be an investment as it can be used in all 4 years of math at Spaulding and on standardized tests such as the SAT. Email me if you have any questions.

- 3-Ring Binder (2")
- Pencils and erasers
- Loose-leaf Paper (graph preferably)
- Ruler
- ***Composition Book*** (graph paper if you can find it)

Text: None

Practice:
- Classwork and homework are not assessed for proficiency but will help students practice and learn standards for future assessments.
- Students are expected to participate in class work, remote work, projects, google meets, extra practice, and check-ins. These are for feedback purposes to prepare/strengthen their abilities and help them stay connected.
- Practice will also help students become eligible for reassessment to meet their reassessment plan (see below).

Assessment/Reassessment:

Students will have multiple opportunities to show proficiency on each standard during "class time." Assessments will be given at the end of each Unit as outlined below.

Additional opportunities are available and may be arranged outside of class time during advisories. Students will need to correctly complete a Re-assessment Plan and have it completely checked by an instructor before reassessing. Therefore, Reassessment Plans that need to be checked must be turned in a day ahead of when they plan to Reassess.

Expectations:

- *No cell phones (Responsible use).*

- If you are absent, it is your responsibility to make arrangements to make up missed work/assessments. Please make sure to check the google classroom!

- Come prepared to class with all materials: something to write with, UNIT PACKETS, **COMPOSITION BOOK** for notes, binder, and calculator.

- Be supportive and respectful of everyone.

- ***You*** are responsible for meeting ***your*** standards for the class.

List of Assessed Course Standards for Algebra 1 Part B :

Standards	Code	Performance Indicators	Proficiency
A. ★ Creating Equations and Inequalities	3P	Create exponential equations	
	4P	Create inverse variation equations and transformations	
	5P	Create quadratic equations in vertex, factored and standard form	
	6P	Build new functions from existing functions (transformations)	
	9E	Use both growth/decay factor and percent rate	
B. ★ Solving Equations/ Inequalities	4P	Solve quadratic equations algebraically in vertex form	
	5P	Solve quadratic equations by Factoring that have a leading coefficient of one	
	6P	Solve quadratic equations using Quadratic formula	
	9E	Solve quadratic equations by completing the square	
	10E	Use the discriminant to explain the number of solutions	
C. ★ Graphing	4P	Exponential Functions: Graph and describe functions in terms of their features including intercepts, maximums, minimums, increasing/decreasing intervals, and asymptotes	
	5P	Quadratic Functions: Sketch and describe functions in terms of their features including intercepts, maximums, minimums, increasing/decreasing intervals	
	6P	Graph transformed familiar parent functions including Translation and Reflection	
	10E	Graph transformed familiar parent functions including Vertical Stretch	
	11E	Rational Functions: Graph and describe functions in terms of their features including reflections and asymptotes	
D. ★ Multiple Representations	3P	Write exponential sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms	
	4P	Apply properties of exponents	
	5P	Scientific Notation	
	6E	Predict the effect of equation changes even on unfamiliar equations, including explanation.	
	7E	Convert between quadratic forms as necessary to graph, interpret, or solve problems	
	8E	Apply properties of integer exponents with negative exponents.	
F. ★ Statistics	3P	Calculate and compare experimental probability with theoretical probability.	
	4P	Use counting methods including permutations and combinations to compute probabilities of compound events and solve problems.	
	7E	Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.	
G. ★ Modeling	4P	Fit an exponential function to a scatter plot and derive an equation to make predictions.	
	5P	Interpret parts of an expression/equation, such as terms, factors, and coefficients	

In order to receive credit for Algebra 1 Part B, students must be proficient in all 6 standards (indicated by a ★). Indicators that include a P are all required for Proficiency in that standard.
Indicators that include an E are all required for Exemplary in that standard.

List of Key Important Dates to help you plan accordingly:

January
- 1/24 - first day of the semester

February
- 2/14 - Q3 Progress Report 1
- 2/14 - Unit 7 Assessment
- 2/15 - PAS DAY 1
- 2/21 - 2/25 February Vacation

March
- 3/14 - Q3 Progress Report 2
- 3/15 - PAS DAY 2
- 3/24 - Unit 8 Assessment

April
- 4/1 - End of Q3/Report Cards
- 4/1 - Unit 9 Assessment
- 4/5 - PAS DAY 3
- 4/15 - Unit 10.1 Assessment
- 4/18 - 4/22 - April Vacation

May
- 5/2 - Q4 Progress Report 1
- 5/3 - PAS DAY 4
- 5/13 - Unit 10.2 Assessment
- 5/23 - Q4 Progress Report 2
- 5/24 - PAS DAY 5

June
- 6/2 - Unit 11 Assessment
- 6/3 - 6/15 Unit 10.3 Enrichment/Reassessments if needed
- 6/16 - End of Year/Report Cards/Call Back Day?

Students: Please accept the invite to the google classroom and complete the "syllabus/class scavenger hunt."
Guardians: Please accept the google classroom invite as a guardian to see weekly updates, assignments, and acknowledge you have read this syllabus.
Alternatively or additionally, send me an email with any questions or concerns at sjacoshs@buusd.org.

I look forward to a great semester with your students!

Thank you,
Ms. Jacobs