Algebra 1
East Ridge High School
2017 - 2018

Instructor: Name: Jeff Legg
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Available after school: **By Appointment Only**

*Asterisk denotes teacher's preferred way of communication.

Course Description

Algebra provides a powerful method for describing interdependence and change, two ideas that are essential to understanding mathematics. Often called the language of science. In this class, students focus on linear functions and equations, which provide the mathematical tools necessary for consolidating and representing what they learned in elementary and middle school about ratios and proportional reasoning. Students also study exponential and quadratic functions and equations. Finally, throughout the course, students learn to use basic algebraic tools to represent problem situations and to solve important classical problems. Students need to have the sound understanding of functions and their multiple representations that they gain from a strong Algebra course. Algebra is an essential foundation for higher mathematics.

This class also draws on the latest advances in developmental and social psychology to help shape students' motivation, confidence, and ultimate success as learners. A core theme is developing the understanding that intelligence is malleable, or changeable, not fixed. Founded in powerful research from social psychology and neuroscience, students come to understand how their brains change as they learn, and apply that knowledge to challenging tasks. Through targeted lessons incorporated throughout the year, students apply the concepts of effective effort and attributions, as well as consider the significance of interpersonal skills, a sense of belonging, and motivation in learning. This class transforms the way students think about themselves as learners, develops their motivation and commitment to high achievement, and fosters skills that sustain students' productive engagement and persistence in challenging academic work.

Course Policies

Students are to abide by all of the guidelines set forth in the student handbook and general classroom policies.

Students need to be prepared for class every day. It is the student's responsibility to bring the necessary materials to class.

There are no passes out of class at any time. All business outside the classroom should be taken care of during the 5 minutes between classes.
There will be no cell phones allowed in class. If students try to use their cell phone during class, the cell phone will be confiscated per school handbook procedures.

Assessments and Grading

Your grade will be calculated as shown below:
Grading formula for each 9 weeks grade:

- Teaching task other than Test 50%
  - Homework
  - Class Participation
  - Classwork
  - Group Work

- Assessments and Test 50%

Grade calculations Semester 1 for high school courses with a state-level test:

- 1st Nine Weeks – 40%
- 2nd Nine Weeks – 40%
- Exam 20%

Grade calculations Semester 2 for high school courses with a state-level test:

- 1st Nine Weeks – 42.5%
- 2nd Nine Weeks – 42.5%
- EOC 15%

Course Topics and Schedule for Full-Year Course

Week	Dates	Topic	UbD
1	8/10 – 8/11	Introduction/ Begin Unit 1	1
2	8/14 – 8/18	Exploring problem solving strategies	1
3	8/21 – 8/25	Getting Smarter Through Algebraic Reasoning	1
4	8/28 – 9/1	Foundations of Algebra	1
5	9/5 – 9/8	Foundations of Algebra/End of Unit 1 Assessments	1
6	9/11 – 9/15	Begin Unit 2/Representing Mathematical Relationships in Multiple Ways	2
7	9/18 – 9/22	Representing Mathematical Relationships in Multiple Ways/Problem Solving and Metacognition	2
8	9/25 – 9/29	Problem Solving and Metacognition/Working With Functions and Equations	2
9	10/2 – 10/5 **(End of 1st quarter)**	Working With Functions and Equations/End of Unit 2 Assessments	2
	10/9 – 10/13	**Fall Break**	

10	10/16 – 10/20	Begin Unit 3/Exploring Rate of Change in Motion Problems/Algebraic Thinking	3
11	10/23 – 10/27	Mindset,Motivation,Algebraic Thinking, Exploring ROC	3
12	10/30 – 11/3	Exploring Rate of Change in other situations	3
13	11/6 – 11/10	Exploring Rate of Change in other situations/End of Unit 3 Assessments	3
14	11/13 – 11/17	Begin Unit 4/Understanding Slopes and Intercepts	4
15	11/20 – 11/21 (Thanksgiving)	Parallel and Perpendicular Lines	4
16	11/27 – 12/1	Parallel and Perpendicular Lines/ Creating Linear Models for Data	4
17	12/4 – 12/8	Creating Linear Models for Data/End of Unit 4 Assessments	4
18	12/11 – 12/15 **(End of Semester 1)**	Begin Unit 5/ Analyzing Univariate Data	5
19	12/18 – 12/19 **(Exams)**	Winter Break	5
20	1/8 – 1/12	Comparing Distributions/Analyzing Bivariate Data/End of Unit 5 Assessments	5
21	1/16 – 1/19	Begin Unit 6/Solving Linear Equations	6
22	1/22 – 1/26	Solving Linear Equations	6
23	1/29 – 2/2	Problem Solving with Slope Triangles	6
24	2/5 – 2/9	Solving Linear Inequalities/End of Unit 6 Assessments	6
25	2/12 – 2/16	Begin Unit 7/Formulating and Solving Systems	7
26	2/20 – 2/23	Formulating and Solving Systems	7
27	2/26 – 3/2	Building Fluency with equation Solving Systems	7
28	3/5 – 3/9	Other Methods for Solving Systems	7
29	3/2 – 3/16 **(End of 3rd quarter)**	Building Fluency with Equation Solving/Other Methods of Solving Systems	7
30	3/19 – 3/23	Other Methods for Solving Systems	**7**
31	3/26 – 3/29	Other Methods for Solving Systems/End of Unit 7 Assessments/Begin Unit 8/ Quadratic Models and Equations	7
	4/2 – 4/6	**Spring Break**	8
32	4/9 – 4/13	Quadratic Models and Equations	8
33	4/16 – 4/20	Quadratic Models and Equations/Operations of Polynomials	8
34	4/23 – 4/27	Operation of Polynomials	8
35	4/30 – 5/4	Factoring and Quadratic Equations	8
36	5/7 – 5/11	Factoring and Quadratic Equations/End of Unit 8 Assessments	8
37	5/14 – 5/18	Other Nonlinear Relationships	8
38	5/21 – 5/23 **Exams (End of 4th quarter)**	End of Course Testing	