

# Algebra I Syllabus

**INSTRUCTOR:** Mrs. Clark  
**ROOM:** 9  
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## Course Description:

This course is designed to teach the student the fundamentals of Algebra through instruction, class work, homework, and tests. This course provides the foundation for more advanced mathematics courses and develops the skills needed to solve mathematical problems. Study includes functions, linear equations, inequalities, graphing, polynomials, factoring, quadratic equations, radical expressions, exponential equations, and statistics. This course will meet the state requirements (Missouri Learning Standards) and will prepare students for the [Algebra I End Of Course \(EOC\) Exam](#).

## REQUIRED SUPPLIES

- ✓ Pencils
- ✓ Erasers
- ✓ 1" binder with 5 section dividers
- ✓ Notebook paper
- ✓ Graph paper
- ✓ Chromebook (charged)
- ✓ Calculator (when allowed)

\*All required supplies above must be brought to class **every** day. If students are not prepared, disciplinary action may result as deemed by the student handbook. Limited pencils and paper available, but students must ask for/obtain the supplies before the bell or during the first minute of class.

## GRADING

Algebra is a subject that takes practice to fully understand. There will be a high emphasis placed on problems done in class and independent work. Credit for assignments will be given for accuracy and/or effort. All work shall be saved and organized. Assessments will be given throughout the year to check for understanding. [Dates for tests and longer assignments will be posted on the classroom calendar](#). Homework is due the day after it is assigned unless otherwise noted. **Late work is accepted, but will result in disciplinary actions as stated in the student handbook.** [For the semester grades, each quarter is worth 40% and the semester exam is worth 20%.](#)

## Grading Scale

A = 90 - 100  
B+ = 87 - 89  
B = 84 - 86  
B- = 83 - 80  
C+ = 77 - 79  
C = 74 - 76  
C- = 73 - 70  
D+ = 67 - 69  
D = 64 - 66  
D- = 63 - 60  
F = 0 - 59

\***EXTRA CREDIT:** There will be various opportunities for extra credit throughout the year. It is **highly** advised that students take advantage of it when offered.

## **END OF COURSE EXAM**

All Algebra I students in the State of Missouri are required to take an end of course (EOC) exam assessing students understanding of state standards. The testing window is during April and May. **This test is a state graduation requirement.**

## **MAKE-UP WORK**

All assignments are available to students in the classroom. Students are responsible to obtain any work they miss for an absence including suspensions.

## **TECHNOLOGY**

Students are expected to bring their chromebook, charged, to class each day. The use of personal wireless communication devices (cell phones, iPods, mp3 players, etc...) is not permitted in class without permission each time. Students are allowed access to calculators for use in class when permitted and they are the only allowable electronic devices. Students will be respectful of provided technology. If broken, students may be responsible for replacement cost.

## **RULES**

1. Come to class prepared and on time.
2. Keep desk clear of non-class items.
3. Focus on teacher while teaching.
4. Raise your hand to ask questions.
5. Be respectful of teacher, students, and school.

## **CONSEQUENCES**

If a student continuously exhibits negative behavior, the following are the actions that will be taken by the teacher:

1. Conference with student
2. Notification to parents/guardians
3. Office Referral
4. Parent/teacher conference

## **PROCEDURES**

Class procedures must be followed as listed below and discussed in class.

### **Entering class:**

Student has before class and the first minute of class to:

- ✓ Make sure that you have all materials for class.
- ✓ Students are to be in assigned seat ready to begin class.
- ✓ Complete weekly google classroom forum.

### **If a student needs to use leave the classroom:**

Students are encouraged to use the restroom and take care of personal business during breaks between classes and before/after school. If a student needs to leave the classroom for any reason, they will ask permission and if warranted teacher will write them a pass.

### **How to submit work:**

- ✓ Everything written for class must be legible and done in **PENCIL!**
- ✓ If your name is not on something submitted, credit may not be given.
- ✓ **No credit will be given unless work is shown.**

## **1<sup>st</sup> Semester Agenda:**

Chapter 0: Preparing for Algebra

Lesson 1: Plan for Problem Solving

Lesson 2: Real Numbers

Lesson 3: Operations with Integers

Lesson 4: Adding and Subtracting Rational Numbers

Lesson 5: Multiplying and Dividing Rational Numbers

Lesson 6: The Percent Proportion

Lesson 7: Perimeter

Lesson 8: Area

Lesson 9: Volume

Lesson 10: Surface Area

Lesson 11: Simple Probability of Odds

Chapter 1: Expressions and Functions

Lesson 1: Variables and Expressions

Lesson 2: Order of Operations

Lesson 3: Properties of Numbers

Lesson 4: The Distributive Property

Lesson 5: Descriptive Modeling and Accuracy

Lesson 6: Relations

Lesson 7: Functions

Lesson 8: Interpreting Graphs of Functions

Chapter 2: Linear Equations

Lesson 1: Writing Equations

Lesson 2: Solving One-Step Equations

Lesson 3: Solving Multi-Step Equations

Lesson 4: Solving Equations with Variables on Both Sides

Lesson 5: Solving Equations Involving Absolute Value

Lesson 6: Ratios and Proportions

Lesson 7: Literal Equations and Dimensional Analysis

Chapter 3: Linear and Nonlinear Functions

Lesson 1: Graphing Linear Functions

Lesson 2: Zeros of Linear Functions

Lesson 3: Rate of Change and Slope

Lesson 4: Slope-Intercept Form

Lesson 5: Transformations of Linear Functions

Lesson 6: Arithmetic Sequences of Linear Functions

Lesson 7: Piecewise and Step Functions

Lesson 8: Absolute Value Functions

Chapter 4: Equations of Linear Functions

Lesson 1: Write Equations in Slope-Intercept Form

Lesson 2: Writing Equations in Standard and Point-Slope Form

Lesson 3: Parallel and Perpendicular Lines

Lesson 4: Scatter Plots and Lines of Fit

Lesson 5: Correlation and Causation

Lesson 6: Regression and Median-Fit Lines

Lesson 7: Inverses of Linear Functions

## **2<sup>nd</sup> Semester Agenda:**

### Chapter 5: Linear Inequalities

- Lesson 1: Solving Inequalities by Adding and Subtracting
- Lesson 2: Solving Inequalities by Multiplying and Dividing
- Lesson 3: Solving Multi-Step Inequalities
- Lesson 4: Solving Compound Inequalities
- Lesson 5: Inequalities Involving Absolute Value
- Lesson 6: Graphing Inequalities in Two Variables

### Chapter 6: Systems of Linear Equations and Inequalities

- Lesson 1: Graphing Systems of Equations
- Lesson 2: Substitution
- Lesson 3: Elimination Using Addition and Subtraction
- Lesson 4: Elimination Using Multiplication
- Lesson 5: Applying Systems of Linear Equations
- Lesson 6: Systems of Inequalities

### Chapter 7: Exponents and Exponential Functions

- Lesson 1: Multiplication Properties of Exponents
- Lesson 2: Division Properties of Exponents
- Lesson 3: Rational Exponents
- Lesson 4: Radical Expressions
- Lesson 5: Exponential Functions
- Lesson 6: Transformations of Exponential Functions
- Lesson 7: Writing Exponential Functions
- Lesson 8: Transformation Exponential Expressions
- Lesson 9: Geometric Sequences as Exponential Functions
- Lesson 10: Recursive Formulas

### Chapter 8: Polynomials

- Lesson 1: Adding and Subtracting Polynomials
- Lesson 2: Multiplying a Polynomial by a Polynomial
- Lesson 3: Multiplying Polynomials
- Lesson 4: Special Products
- Lesson 5: Using the Distributive Property
- Lesson 6: Factoring Quadratic Trinomials
- Lesson 7: Factoring Special Products

### Chapter 9: Quadratic Functions and Equations

- Lesson 1: Graphing Quadratic Functions
- Lesson 2: Transformations of Quadratic Functions
- Lesson 3: Solving Quadratic Equations by Graphing
- Lesson 4: Solving Quadratic Equations by Factoring
- Lesson 5: Solving Quadratic Equations by completing the Square
- Lesson 6: Solving Quadratic Equations by Using the Quadratic Formula
- Lesson 7: Solving Systems of Linear and Quadratic Equations
- Lesson 8: Analyzing Functions with Successive Differences
- Lesson 9: Combining Functions

### Chapter 10: Statistics

- Lesson 1: Measures of Centers
- Lesson 2: Representing Data
- Lesson 3: Measures of Spread
- Lesson 4: Distribution of Data
- Lesson 5: Comparing Sets of Data
- Lesson 6: Summarizing Categorical Data