**Algebra I (H) Syllabus**

**Fall, 2020**

# **Instructor Information**

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| Instructor | Email | Office Location & Hours |
| Mrs. Fenwick | fenwick3@mccormick.k12.sc.us | McCormick High School  Room 755  Monday-Friday.  Period 1 |

## **Description**

South Carolina College- and Career-Ready (SCCCR) Algebra 1 is designed to provide students with knowledge and skills to solve problems using simple algebraic tools critically important for college and careers. In SCCCR Algebra 1, students build on the conceptual knowledge and skills they mastered in earlier grades in areas such as algebraic thinking, data analysis, and proportional reasoning.

In this course, students are expected to apply mathematics in meaningful ways to solve problems that arise in the workplace, society, and everyday life through the process of modeling. Mathematical modeling involves creating appropriate equations, graphs, functions, or other mathematical representations to analyze real-world situations and answer questions. Use of technological tools, such as hand-held graphing calculators, is important in creating and analyzing mathematical representations used in the modeling process and should be used during instruction and assessment. However, technology should not be limited to hand-held graphing calculators. Students should use a variety of technologies, such as graphing utilities, spreadsheets, and computer algebra systems, to solve problems and to master standards in all Key Concepts of this course. (SCCCR Standards for Mathematics)

## **Expectations and Goals**

**Grades:** Grades are based on the weighted categories of “Major” and “Minor”. Assignments listed as “Major” will be weighted at 60 % and those as “Minor”, 40%. Semester exams **(EOC)**count for **20%** of the final grade. Final semester grades are calculated by the following: First quarter 40%, second quarter 40%, Semester exam  **(EOC)** 20%. **Missing assignments:** If a student misses\* a graded assignment for any reason then it is up to the student to make arrangements to make-up the assignment. Student has 2 days to make those arrangements. Missing assignments will receive a grade of “1” in the gradebook (homework excluded). That grade will remain unless student completes assignment within agreed upon time frame.

***\*Absences due to disciplinary actions will not serve as an excuse for missed assignments***

**Homework (Minor):** Homework will be assigned daily. It will be checked and graded daily for effort, completion, and accuracy. NO LATE HOMEWORK WILL BE ACCEPTED unless the student was absent from class. If a student is present the day an assignment is made but absent the day it is graded, THE ASSIGNMENT IS DUE THE DAY THE STUDENT RETURNS TO SCHOOL, unless other arrangements have been made. Classwork will also be graded as a homework grade.

**Quizzes, Group Assignments, and Projects (Minor)**: Quizzes will be given periodically both announced and unannounced. Other activities such as group assignments and projects will be graded accordingly and will carry the same weight as a quiz.

**Participation Grades (Minor):** Students will receive a weekly participation grade. Participation is to include, but not limited to: Being prepared (having supplies), being attentive, staying on task, participating in discussions, and staying on task. Grades are based on 10 points per week where students can lose points in .5 increments per infraction. Ex: No pencil ( -.5), no paper (-.5), sleeping in class (-.5 per incident), going to unauthorized websites (-1 per incident), to name a few.

**Notebook (Minor):** Students are expected to keep a notebook with a record of the warm-up activities, vocabulary words, notes, examples, homework, handouts, and graded assignments. I suggest a three ring binder with five tabs. Notebooks will be checked periodically as a classwork assessment and will be included in the weekly participation grade.

**Portfolio (Major):** Module portfolios will receive two Major grades. Software generated module grade and a module packet grade.

**Tests (Major):** Tests will be given as necessary throughout each unit. Test dates are typically announced at least one week ahead of the test.

**Semester Exam:** There will be an exam at the end of the semester. Semester exams count for 20% of the final semester grade.

**Parental contact:** **The most important aspect of your student’s success is an open communication between the student and the parent.** The second is communication between the parent, student, and teacher. I encourage both students and parents to initiate an open line of communication with the teacher as soon as possible. I will do the same. You will receive interim reports during the semester (signature required), phone calls when necessary, email, access to student’s grades through powerschool, as well as the phone app “Remind”.

**Discipline:**

Good behavior is expected! Discipline will be administered as outlined by the McCormick High School Parent/Student handbook. **One point of emphasis** is the cell phone policy.

Unfortunately, cellphones are very disruptive to the learning process in many situations. To insure that cellphones do not hamper any students success, the following policy will be followed on Foundations in Algebra:

Upon arrival to class, all cellphones will be turned off and brought to a designated secure area specific to the owner of the phone. No student will be allowed to be in possession of a cellphone during class. At the end of class, students will be allowed to collect their cellphones and secure them on their person (they still must not be used.)

Those students who choose not to follow this procedure will be required to turn in cellphone to administration as outlined under school policy.

**Classroom Rules:**

1. **Be in your assigned seat at tardy bell**
2. **No cell phones allowed**
3. **Respect all members of the class**
4. **No food or drink allowed**
5. **Follow all school policy and procedures**

## **Required Materials**

**Supplies:** Notebook, pencils, notebook paper, composition notebook, ruler, protractor, compass, graph paper, dry erase marker, highlighters, and graphing calculator.

## **Required Text**

**Algebra I (**Glencoe 2018)

**Course Scope and Sequence**

**Unit 1: Prerequisite Unit (Pre-Algebra Skills)**

**Design:** To re-teach, refresh, and review skills required for success in Algebra I.

**Skills to be taught but not limited to:**  Problem solving skills, real numbers, operations with integers, adding and subtracting rational numbers, multiplying and dividing rational numbers, percent proportion, perimeter, area, volume, surface area, simple probability and odds.

**Time: 5** days **(8/30/2020 - 8/30/2020)**

**Unit 2: Expressions and Functions**

**Design:** To insure a foundation in the use and purpose of algebraic expressions and functions.

**Skills to be taught but not limited to:**  Variables and expressions, order of operations, properties of numbers, distributive properties, modeling and accuracy, relations, functions, and interpreting graphs of functions.

**Time:** 5 days

**Unit 3: Linear Equation**

**Design:** To introduce the concept of linear equations using a mix of problem solving skills.

**Skills to be taught but not limited to:** Writing equations, solving one-step equations, solving multi-step equations, solving equations with variables on each side, solving absolute value equations ratios and proportions, literal equations, and dimensional analysis.

**Time:** 5 days

**Unit 4: Linear and Nonlinear Functions**

**Design:** To analyze and distinguish various characteristics of both linear and nonlinear functions.

**Skills to be taught but not limited to:** Graphing linear functions, zeros of linear functions, rate of change and slope, slope intercept form, transformations of linear functions, arithmetic sequences as linear functions, piecewise and step functions, and absolute value functions.

**Time:** 8 days

**Unit 5: Equations of Linear Functions**

**Design:** To analyze specific types of linear functions, their graphs, and how they are used in real world applications.

**Skills to be taught but not limited to:** Writing equations in slope-intercept form, standard form, and point-slope form. Parallel and perpendicular lines, scatter plots, lines of fit, correlation, causation, regression and median-fit lines, and inverses of linear functions.

**Time:** 8 days

**Unit 6:**  **Linear Inequalities**

**Design:** Analyze and study linear inequalities and their characteristics.

**Skills to be taught but not limited to:** Solving inequalities by addition and subtraction, solving inequalities by multiplication and division, solving multi-step inequalities, solving compound inequalities, solving inequalities involving absolute value, and graphing inequalities in two variables.

**Time:** 5 days

**Unit 6: Systems of Linear Equations and Inequalities**

**Design:** To learn how to solve systems of linear equations by graphing, substitution, and elimination. To learn how to solve systems of linear inequalities by graphing.

**Skills to be taught but not limited to:** Graphing systems of equations, substitution method, elimination using addition and subtraction, elimination using multiplication, applications of systems of linear equations, and systems of inequalities.

**Time:** 5 days

**Unit 7: Exponents and Exponential Functions**

**Design:**  To learn how to simplify and perform operations on expressions involving exponents, extend properties of integer exponents to rational exponents, write and transform exponential functions, graph and use exponential functions.

**Skills to be taught but not limited to:** Multiplication properties of exponents, division properties of exponents, rational exponents, radical expressions, exponential functions, transformations of exponential functions, writing exponential functions, transforming exponential expressions, geometric sequences as exponential functions, and recursive formulas.

**Time:** 8 days

**Unit 8: Polynomials**

**Design:**  To learn how to add, subtract, and multiply polynomials, factor trinomials, factor difference of squares, and factor perfect squares.

**Skills to be taught but not limited to:** Adding and subtracting polynomials, multiplying a polynomial by a monomial, multiplying polynomials, special products, using the distributive property, factoring quadratic trinomials, and factoring special products.

**Time:** 8 days

**Unit 9: Quadratic Functions and Equations**

**Design:** To learn how to solve quadratic equations using a variety of methods, analyze functions with successive differences and ratios, identify and graph special functions, and to solve systems of linear and quadratic equations.

**Skills to be taught but no limited to:** Graphing quadratic functions, transformations of quadratic functions, solving quadratic equations by graphing, solving by factoring, solving by completing the square, solving by using the quadratic formula, solving systems of linear and quadratic equations, analyzing functions with successive differences, and combining functions.

**Time:** 8 days

**Unit 10: Statistics**

**Design:** To learn how to determine which measure of center best describes a set of data, to represent data using a variety of graphs, to use a frequency table, to describe the effects linear transformations have on measures of center and spread.

**Skills to be taught but not limited to:** Measures of center, representing data, measures of spread, distribution of data, comparing sets of data, and summarizing categorical data.

**Time:**  5 days

**Total days:** 70 days

**Semester Review:**

**Exams:**

**Total time:**  90 days **\***

***\* Dates and topics subject to change if needed.***

**Closing Statement:**

It is an honor and a privilege to be your teacher. Through dedication, hard work, and perseverance from all, this year promises to provide each of us the opportunity for success. I look forward to a great year!

Sincerely,

Mrs. Fenwick