Athens High School
Course Syllabus 2022-2023

Course Name: College Algebra   **Teacher: Mrs. Begley**

Materials: Notebook, Calculator

Prerequisite: Algebra II CP
*Academic performance in prerequisite classes will be taken into account as well as faculty recommendation

Course Description and Objectives

Students will revisit the topics from Algebra II and expand on them with a Calculus undertone. It is suggested that any student intending to go to a two or four-year college take this course as it will prepare them for the college math course(s) they may be required to take. Students taking this course for College Credit Plus will earn 4 college credits of mathematics through Hocking College. Course content will be aligned to the Common Core State Standards. The students in this course should have a scientific calculator.

Textbook Name: *College Algebra & Trigonometry*
                    Copyright 2017
                    New York, NY: Miller, Gerken

Grading

Tests/Quizzes **– Major 80%**	100 points
Notebook **– Major 80%**	100 points
Homework **– Minor 20%**	6 points

Grading Scale: The scale in the handbooks, as adopted by the Athens City Schools Board of Education, will be used to determine letter grades.

CC+ Final Grade: The final grade for students taking College Algebra for college credit will be calculated by finding the average of all four nine weeks grades. This will be the grade that will go on the college transcript. There will not be a first semester and second semester grade.

Last Day to Drop: The last day for students to drop this course without penalty for CC+ credit is **September 16, 2022**. All drop forms must be received by Hocking College no later than 5:00 PM on this day.

Classroom Rules/Policies
1. Show Respect
2. Be on time
3. Bring necessary materials
4. Do not use or have out cell phones

Keys to being successful
1. High Attendance Rate (just like college)
2. Ask Questions
3. Ask for extra help as needed (Academic Coaching, etc.)
4. Do Homework!!!

Absence (Per school handbook)
Students should make arrangements for make-up work the day they return to school. A "0" will be recorded if no arrangements are made. A student will have the same number of days to make up their work and/or tests as excused absence (example: 4 days absent-4 days to make up work)

There will be two review days for each quiz. One day will be a day to work in class on the review worksheet and ask for any one-on-one help that is needed. The following day will be when I go over the answers to the worksheet with the entire class. If you are present for any of these days you are **REQUIRED** to take the quiz. It is your responsibility to get the worksheet or the answers to the worksheet before the period you take the quiz.

Testing
There is no extended time given on a test unless you have accommodations for testing that allows extended time. If you do have accommodations, I need to be made aware of those before the first test/quiz. Retakes will NOT be given for any test/quiz. Multiple versions of a test/quiz can be given. Make-up tests/quizzes can be different than the original version given on the assigned date.

Approximate list of topics to be covered

First Grading Period	*Second Grading Period*
▪ Sets and the Real Number Line ▪ Integer Exponents and Scientific Notation ▪ Rational Exponents and Radicals ▪ Polynomials and Multiplication of Radicals ▪ Factoring ▪ Rational Expressions and Operations on Radicals ▪ Linear Equations and Rational Equations ▪ Complex Numbers ▪ Quadratic Equations ▪ Linear, Compound, and Absolute Value Inequalities ▪ The Rectangular Coordinate System ▪ Circles ▪ Functions and Relations ▪ Linear Equations/Functions in Two Variables ▪ Transformations of Graphs ▪ Piecewise-Defined Functions ▪ Composition of Functions	▪ Quadratic Functions ▪ Polynomial Functions ▪ Division of Polynomials and Remainder and Factor Theorems ▪ Zeros of Polynomials ▪ Rational Functions ▪ Polynomial and Rational Inequalities ▪ Variation ▪ Inverse Functions ▪ Exponential Functions ▪ Logarithmic Functions ▪ Properties of Logarithms ▪ Angles and Their measures ▪ Right Triangle Trigonometry ▪ Trigonometric Functions of Any Angle ▪ Trigonometric Functions: A Unit Circle Approach

Third Grading Period	Fourth Grading Period
- Graphs of Sine and Cosine Functions - Graphs of Other Trigonometric Functions - Inverse Trigonometric Functions - Fundamental Trigonometric Identities - Sum and Difference Identities - Double-Angle, Power-Reducing, and Half-Angle Identities - Product-Sum and Sum-Product Identities - Trigonometric Equations - Law of Sines - Law of Cosines - Harmonic Motion - Polar Coordinates and Graphs - Complex Numbers in Polar Form - Vectors - Dot Product	- Systems of Linear Equations - Partial Fraction Decomposition - Systems of Nonlinear Equations in Two Variables - Inequalities and Systems of Inequalities in Two Variables - Linear Programming - Solving Systems of Linear Equations Using Matrices - Operations on Matrices - Inverse Matrices and Matrix Equations - Determinants and Cramer's Rule - Ellipses, Hyperbolas, and Parabolas - Rotation of Axes - Polar Equations of Conics - Plane Curves and Parametric Equations - Sequences and Series - Arithmetic Sequences and Series - Geometric Sequences and Series - The Binomial Theorem - Principles of Counting - Introduction to Probability