



Sequoia Charter School

Course Syllabus –

Curriculum outline:

SEMESTER I

I. Expressions, equations and functions

- Order of operations
- Equations and inequalities
- Functions as rules and tables
- Functions as graphs
- Application and connection to the analysis and solution of real-life problems

II. Working with Real Numbers

- Addition and subtraction
- Multiplication
- Division
- Distributive property
- Square roots, comparison
- Application and connection to the analysis and solution of real-life problems

III. Solving Equations and Problems

- Solving equations:
 - One step
 - Two steps
 - Multiple steps
 - Variables on both sides
 - Ratios and proportions
 - Percents
 - Formulas
- Application and connection to the analysis and solution of real-life problems

IV. Graphing linear equations and functions

- Intercepts
- Slope
- Rate of change
- Direct variation
- Application and connection to the analysis and solution of real-life problems

V. Linear equations

- Writing linear equations from:
 - graphs
 - points
 - data

- Parallel and perpendicular lines
- Solution of linear equations
- Regressions
- Application and connection to the analysis and solution of real-life problems
- Predictions with linear models

SEMESTER II

VI. Solving and graphing linear inequalities

- Solving simple inequalities
- Solving multi-steps inequalities
- Solving and analyzing compound inequalities
- Equations and inequalities with absolute value
- Graphs of inequalities in two variables
- Application and connection to the analysis and solution of real-life problems

VII. Systems of equations and inequalities

- Solving linear systems by:
 - graphing method
 - Addition or subtraction
 - Linear combination
- Application and connection to the analysis and solution of real-life problems.

VIII. Exponents and exponential functions

- Properties of exponents
- Negative exponents
- Scientific notation
- Exponential growth and decay functions
- Graphical analysis and application of exponential functions
- Application and connection to the analysis and solution of real-life problems

IX. Polynomials and factoring

- Operations with polynomials
- Factorization of polynomials
 - common factor
 - trinomials
 - grouping
 - special products
- Application and connection to the analysis and solution of real-life problems

X. Quadratic equations and functions

- Graphs of quadratic functions
- Intercepts, roots
- Solving quadratic functions:
 - graphically
 - completing the square
 - quadratic formula
 - factoring
- Analysis of discriminant
- Quadratic regressions
- Application and connection to the analysis and solution of real-life problems

XI. Radicals and geometry of connections

- Properties and operations with radicals
- Solving radical equations
- Pythagorean Theorem and its applications
- Application and connection to the analysis and solution of real-life problems

XII. Rational equations and functions

- Variations: direct, indirect, joint
- Simplification and operations of rational expressions
- Rational equations: analysis, graphs and solution.
- Application and connection to the analysis and solution of real-life problems
- Vectors in geometry (advanced)
- Rotations in the coordinate plane

XIII. Proof and Logic

- If-then statements
- Indirect proof

Evaluative criteria & instruments:

- Class preparation
- Class work
- Group work
- Research
- Homework
- Projects
- Quizzes
- Tests
- Self evaluation
- Alternative Assessment Project
- Cumulative Tests
- Practice Tests.

Course Information

Credit Hour:

Period: ↗

Class Location: BLDG 6 Room 605

E-Mail: cdeeb@edkey.org

Teacher Information

Name: Claraines Deeb

Phone: 480-649-7737 ext. 10605

Office Hours: 7:30 - 3:15

Course Description:

This course develops students' abstract thinking, comprehension, analysis, reasoning, and problem solving skills. Students learn to write algebraic sentences, simplify polynomials, solve equations, apply properties, relate arithmetic, algebra and geometry, identify quadratic functions, and factor polynomials. Students work with linear functions as models to relate data, and learn to simplify algebraic expressions and to solve equations.

Algebra 1 develops in students deductive reasoning relating concepts, real numbers, one to one functions, graphs, mathematical models, and problem solving techniques.

Course Competencies/ Learning Objectives

Students who successfully complete Senior Transitional Mathematics will be competent in the following areas:

- Developing an understanding of algebra by using a variety of learning strategies, examples, and activities.
- Continuing learning how to analyze word phrases and sentences, translate them into mathematical language, and solve problems using algebraic equations and inequalities.
- Continuing exercising students' spatial and interpersonal skills by studying graphs, diagrams, charts, and by using a variety of group activities for solving systems of equations, working on operations with polynomials and radicals, factoring polynomials, solving rational equations.
- Making connections with earlier math courses, data analysis, real-world applications as well as interdisciplinary connections between different sciences and mathematics.
- Becoming good problem solvers.

Attendance

Attendance is vital to academic success. We expect students to attend school every day so that they will have the greatest opportunity to have a successful academic year. A student who has 10 absences (excused or unexcused) from a class within a semester may be withdrawn from the class. The student may lose the credit for that class, but may recover the credit by taking the class on-line or in a traditional class setting the following school year.

Online Grade Book

Did you know that you can access your child's grades and assignments? Parents and students should monitor grades regularly by accessing the online grade book, Powerschool. Parents will be assigned a confidential access code to Power School that will allow them to see your child's grades, assignments, and attendance in each class. To take advantage of this powerful tool, parents should go to <http://edkey.powerschool.com> and enter their ID and password. You can receive your ID and password from the front office.

Classroom Expectations

- Arrive to class on time

- Ask questions, be engaged, participate actively in class activities, follow instructions, pay attention and enrich the learning process with ideas, creativity, and critical thinking.
- Study and review concepts, correct work and complete assigned activities daily.
- Cooperate and work with peers during group activities doing your best for the good of the group.
- Present your work complete and neat.
- Feel free to ask questions during class time or approach me to ask for help, communicate difficulties, concerns, ideas or needs.
- No electronic devices are to be used in class unless instructor gives permission for instructional purposes.

My email is cdeeb@edkey.org.

I will check my email frequently throughout the school day. If you email me later than 5pm a response is not guaranteed that evening!

Grades and Scale

Below 60% is considered "Incomplete." An "incomplete" signifies that a student has not mastered the essential standards or requirements of the course and must re-take it.

Weight scale

- Class participation / attendance 10%
- Homework: 10%
- Projects/Papers / labs: 30%
- Classwork: 25%
- Quizzes /Test: 25%

Tardy

Students are encouraged and expected to be in their class on time. A tardy is defined as "not being in an assigned seat when the bell rings". If a student is tardy six or more times in a five week period, he/she will be assigned to Behavior Intervention Program (BIP) by administration.

Suspensions

If a student is suspended, he/she may not make up the 'day to day' assignments. However, if there is a major test, project, or paper due during the suspension the student must still make up those assignments. Sequoia's late/missing work policy will be upheld for these assignments as well.

- Note: A student has the equal amount of days suspended to complete all missing assignments.

Class Requirements

To have completed successfully Arithmetic and Prealgebra.

Important: *If you are having trouble with this class, seek help immediately. If you wait till the end of the marking period, it most likely will be TOO LATE to receive the proper amount of help to influence your grade.*

Please go over this with your parents/guardians, as the student and the parent/guardian are required to sign and return before August 12, 2016.

The signature portion will be counted as a homework assignment, and there will be a quiz over the material.

-----**Please cut along the line and
return**-----

My student _____ has gone through the Syllabus for Algebra 1. We are both aware of the expectations of the class.

Please Print Parent Name _____

Parent preferred contact method: Email Phone

- Email address: _____
- Phone number: _____

Parent Signature

Student Signature