Denair Charter Academy
Course Outline

Course Title: CAHSEE Math
Grade Level: 11, 12
Elective/Required: Elective
Length/Credits: 1 year/ 10 credits
Prerequisites: CAHSEE Retake

I. Course Description:

The content for CAHSEE Math is the California High School Exit Exam on Mathematics Standards. The class will cover Probability and Statistics, Number Sense, Algebra and Function, Measurement and Geometry, and Algebra I. This course is designed for juniors and seniors who have not successfully passed the California High School Exit Exam. It may be used once to meet one of the two years required in math for graduation.

II. Instructional Materials

Required Text:
Algebra 1, Globe Fearon, 1998
Algebra, AGS Publishing, 2004

Supplementary Texts:
Mathematics Workbook, Coordination Group, 2002
Algebra 1 Workbook, Coordination Group, 2002

III. Course Outline (include approximate length of time)

Number Sense
Properties and computation
Exponents, Powers and Roots
Algebra and Functions
Quantitative Relationships using terminology, etc.
Expressions involving integer powers and roots
Graphing and interpreting graphs, linear and non-linear
Solving equations and inequalities
Measurement and Geometry
Comparing converting and solving problems using units
Computing perimeter, area, and volume and using a scale factor
Pythagorean theorem
Statistics, Data Analysis, and Probability
Data collection and Evaluation

Mathematical Reasoning
Decision making on problems solving
Problem solving
Testing reasonableness of answers
Algebra I
Solving linear equations
Graphing linear equations and functions
Writing linear equations
Solving and graphing linear inequalities
Systems of linear equations and inequalities
Exponents and Exponential functions

IV. Expectations for Student Learning

Number Sense

A. Students know the properties of, and compute with, rational Numbers expressed in a variety of forms.
B. Students use exponents, powers, roots, and use exponents in working with fractions.

Algebra and Functions

A. Students express quantitative relationships by using algebraic terminology, expressions, equations, inequalities, and graphs.
B. Students interpret and evaluate expressions involving integer powers and simple roots.
C. Students graph and interpret linear and some non-linear functions.
D. Students solve simple linear equations and inequalities over the rational numbers.

Measurement and Geometry

A. Students choose appropriate units of measure and use ratios to convert within and between measurement systems to solve problems.
B. Students compute the perimeter, area, and volume of common geometric objects and us the results to find measures of less common objects. They know that perimeter, area, and volume are affected by changes in scale.
C. Students know the Pythagorean theorem and deepen their understanding of plane and solid geometric shapes by constructing figures that meet given conditions and identify attributes of figures.

Statistics, Data Analysis, and Probability

A. Students collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a data set.

Mathematical Reasoning

A. Students make decisions about how to approach problems.
B. Students use strategies, skills, and concepts in finding solutions.
C. Students determine a solution is complete and move beyond a particular problem by generalizing to other solutions.

Algebra I

A. Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, raising to a fractional power. They understand the rules of exponents.
B. Students solve equations and inequalities involving absolute values.
C. Students simply expressions before solving linear equations and inequalities in one variable.
D. Students solve multi-step problems, involving word problems, involving linear equations and linear inequalities in one variable.
E. Students graph a linear equation and compute the x- and y-intercepts. They are also able to sketch the region defined by linear inequality.
F. Students verify that a point lies on a line, given an equation of the line. Students are able to derive linear equations.
G. Students understand the concept of parallel lines and perpendicular lines and how those two slopes are related. Students are able to find the equation of a line perpendicular to a given line that passes through a given point.
H. Students solve a system of two linear equations and inequalities in two variables algebraically and are able to interpret the answer graphically.
I. Students add, subtract, multiply, and divide monomials and polynomials. Students solve multi-step problems, including word problems, by using these techniques.
J. Students apply algebraic techniques to solve rate problems, work problems, and percent mixture problems.

V. Instructional Methods

A. Lecture
B. Discussion
C. Written assignments
D. Videos
E. Calculators
F. Computers

VI. Assessment and Evaluation

Tests
Quizzes
Projects
Assignments

VII. Grading Policy

90%-100%	A
80% -89%	B
70%-79%	C
60%-69%	D
0%-59%	F