

Course Outline

High School _____ District - Wide _____

Title: <u>Adapt. Pre-Algebra</u> Transitional* _____ (Eng. Dept. Only) Sheltered (SDAIE)* _____ Bilingual* _____ AP** <u>NA</u> Honors** <u>NA</u> Department: _____ Grade Level (s): <u>9th, 10th, 11th grade</u> Semester _____ Year <u>X</u> Year of State Framework Adoption <u>2009</u>	This course meets graduation requirements: <input type="checkbox"/> English <input type="checkbox"/> Fine Arts <input type="checkbox"/> Foreign Language <input type="checkbox"/> Health & Safety <input checked="" type="checkbox"/> Math <input type="checkbox"/> Physical Education <input type="checkbox"/> Science <input type="checkbox"/> Social Science <input type="checkbox"/> Elective	<table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Department/Cluster Approval</th> <th style="text-align: left;">Date</th> </tr> </thead> <tbody> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> </tbody> </table>	Department/Cluster Approval	Date	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
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*Instructional materials appropriate for English Language Learners are required.

**For AP/Honors course attach a page describing how this course is above and beyond a regular course. Also, explain why this course is the equivalent of a college level class.

1. **Prerequisite(s):** An active I.E.P (Individualized Education Plan) with this course named or inferred by the I.E.P. team as needed to meet the student in question's individual educational needs or modifications.

2. **Short description of course which may also be used in the registration manual:** The Pre-Algebra course is designed to prepare students to enter the Algebra course by strengthening basic skills, expanding higher order thinking skills, developing problem solving skills, and exploring applications of math in personal use as well in career setting. The Pre-Algebra course is designed to encourage exploration and interest in mathematics and learning. Students should be able to apply mathematics as a powerful tool in new, as well as, familiar situations. Special Education Pre-Algebra is a two-semester course, which is designed to provide Special Education Students with individualized course of study in step with Arroyo High School's core curriculum. A grade of (C) / "2.00" or better is needed for placement into Special Education Algebra from Special Education Pre-Algebra.

3. **Describe how this course integrates the schools ESLRS (Expected School-wide Learning Results):** This course integrates the school's ESLR's by allowing students to analyze and use Algebraic information to promote critical thinking skills in perception, reasoning, analysis and problem solving. It effectively utilizes group and individual work, to model and apply key concepts. Technology is addressed when students attend the Computer Lab to work with computer assisted instruction and Internet research.

4. **Describe the additional efforts/teaching techniques/methodology to be used to meet the needs of English language learners:** All textbook materials have been modified in reading level and data volume. This means that parts of the following textbook may have modified as needed and/or stated in each student's Individualized Education Plan (I.E.P.). AGS Pre-Algebra. Visual examples using overhead projection, models, photographs, and/or Audio Visuals materials, note taking support using graphic organizers and/or peer help can be utilized to help meet the needs of the English Language Learner (E.L.L.) as well as the Individual needs of each student with an active Individualized Education Plan (I.E.P.) SDAIE (Specially Designed Academic Instruction in English) strategies will be incorporated into lessons

Vocabulary development will be emphasized
ELL supplementary materials will be incorporated into the lessons
Glossaries will be used as available
Visual/manipulative will be used

5. **Describe the interdepartmental articulation process for this course:** Developing higher order thinking and problem solving, fundamental skills taught in Pre-Algebra, are applicable to all other academic disciplines. Also, Pre-Algebra students explore applications of math in personal use as well in career settings. Other Pre-Algebra concepts and skills taught are an important part of the students' science and technology courses. Graphing and interpretation skills will be utilized in the students' social science classes and other courses. Vocabulary development relative to math will also be emphasized. Teaching techniques/methodologies and materials are shared with the departments, to the point that this course is based on the Math department's course outline and then modified to each student's Individualized Education Plan (I.E.P.).
6. **Describe how this course will integrate academic and vocational concepts, possible through connecting activities. Describe how this course will address work-based learning/school to career concepts:** Each Special Education student's needs are addressed on an individual basis. Academic and vocational goals may vary from basic life skills to preparing the student for post high school study. As for career concepts this course will follow the goals and objectives and Individualized Transitional Plan (I.T.P.), stated in each student's Individualized Education Plan (I.E.P.). Also word problems will integrate vocational concepts that lead students to critically analyze real world problems.
7. **Materials of Instruction (Note that materials of instruction for English language learners are required and should be listed below.)**

- A. Textbook(s) and Core Reading(s):
AGS Pre-Algebra
- B. Supplemental Material and Resources:
Teacher Resource Library
- C. Tools, Equipment, Technology, Manipulative, Audio-Visual:
Maps and graphs,
Calculators
Scales, rulers, protractors and compasses,
Posters,
Projects
Fraction Nation Program

A. Objective of Course:

The student is expected to become proficient in the 7th grade Essential California Content Standards with an emphasis on the standards that appear on the CAHSEE mathematics blueprint.

By the end of the this course, the student will be able to/be certified to/have the following skills:

- Use basic computational skills in a variety of situations.
- Demonstrate and apply mathematical skills
- Use good study habits needed for success in school
- Use improved problem solving and critical thinking skills
- Work cooperatively in groups of students with better interpersonal and work skills
- Have better awareness of the need for mathematicians and mathematically trained people in various occupations and situations
- Wisely and capably use calculators and other technology for mathematically problem solving
- Model mathematical ideas using concrete materials
- Successfully complete Algebra 1

B. Unit detail including projects and activities including duration of units (pacing plan)

***Estimates of the amount of time to cover each concept. May be shorter or longer depending on mastery.**

Chapters 1, 2, & 3 --- Algebra and Whole Number, Using Decimals and Number Theory (Approx. 5 weeks)

Students will be able to review addition and subtraction using whole number, learn to estimate sums and differences, review multiplication and division using whole numbers, learn to estimate products and quotients, recognize true, false, and open statements, recognize algebraic and numerical expressions, evaluate algebraic expressions, identify the place value of digits, compare and round decimals, add and subtract decimals, multiply and divide decimals, change decimals to fractions and fractions to decimals, use a bar to identify a repeating decimal, rename percents as decimals, evaluate algebraic expressions with decimals, identify divisible numbers, tell prime numbers from composite numbers, find the greatest common factor, use the distributive property to multiply or factor expressions, find the least common multiple and use scientific notation for large and small numbers.

N.S. 7. 1.1, 7.1.2, 7.1.5, 7.2.5

A.F. 7.1.1,

M.R. 7.2.1

Chapter 7 ---Integers (Approx. 5 weeks)

Students will be able to identify absolute value of integers, compare the values of negative and positive whole numbers, and add, subtract, multiply and divide integers.

N.S. 7.1.2

A.F. 7.1.3, 7.1.4, 7.1.5

M.R. 7.2.2, 7.2.3, 7.2.5, 7.3.1, 7.3.2

Chapter 5 --- Basic Operations and Rational Expressions (Approx. 3 weeks)

Students will be able to use the order of operations to solve problems correctly, evaluate algebraic expressions, solve algebraic equations through substitution, solve equations by adding and subtracting, simplify complex fractions, add and subtract to simplify rational expressions, and multiply rational expressions.

N.S. 7.1.2

A.F. 7.1.2, 7.1.3, 7.1.4

M.R. 7.1.3, 7.2.1, 7.2.2, 7.3.2, 7.3.3

Chapter 8 ---Exponents, Square Roots, and the Pythagorean Theorem (Approx. 3 weeks)

Students will be able to find the value of numbers raised to a certain power, multiply and divide terms with exponents, find area and volume using numbers with exponents, find the square roots of numbers, and use the Pythagorean theorem to solve problems.

N.S. 7.2.1, 7.2.3, 7.2.4

A.F. 7.1.2, 7.1.4

M.R. 7.1.1., 7.2.2

M.G. 7.3.3

Chapter 4 ---Rational Numbers and Fractions (Approx. 5 weeks)

Students will be able to identify proper and improper fractions and mixed numbers, write equivalent fractions, express fractions in their simplest form, compare and order fractions, add and subtract fractions and mixed numbers with like or unlike denominators, and multiply and divide fractions and mixed numbers.

N.S. 7.1.2, 7.2.2

A.F. 7.1.1, 7.1.4

Chapter 6 ---Ratios, Proportions, and Percents (Approx. 5 weeks)

Students will be able to express ratios in different forms, solve problems using proportions, change fractions and decimals to percents, and solve problems using percents.

N.S. 6.1.2, 6.1.3, 7.1.3, 7.1.5, 7.1.6

A.F. 7.1.2, 7.1.3, 7.1.4

M.R. 7.1.1, 7.2.1, 7.2.2, 7.3.2, 7.3.3

Chapter 10 ---Graphing (Approx. 5 weeks)

Students will be able to graph solutions to equalities and inequalities on number lines, identify and graph ordered pairs of values, determine and graph points of a linear equation, identify the slope of a line, and determine the values of slope, the y-intercept, and the x-intercept.

N.S. 7.1.2

A.F. 7.1.1, 7.1.2, 7.1.5, 7.3.1, 7.3.3, 7.3.4

M.G. 7.3.2

M.R. 7.2.1, 7.2.6

Chapter 9 ---Equations from Geometry (Approx. 3 weeks)

Students will be able to find the perimeters of regular and irregular polygons, calculate the areas of regular and irregular polygons, use formulas to find the volumes of cubes, rectangular prisms, and square pyramids, determine the circumferences and areas of circles, and use formulas to find the volumes of cylinders and spheres.

N.S. 7.2.1, 7.2.3

A.F. 7.1.2

M.R. 7.1.1, 7.1.2, 7.1.3, 7.2.1, 7.2.2, 7.2.5, 7.3.3

M.G. 7.2.1, 7.2.2, 7.2.3

Chapter 11 ---Geometry (Approx. 3 weeks)

Students will be able to measure and classify angles, name and classify triangles, find the measures of angles in triangles, identify quadrilaterals, and determine the number of degrees in polygons.

N.S. 7.1.2

M.G. 7.3.4, 7.3.5, 7.3.6

M.R. 7.1.1, 7.1.2, 7.1.3, 7.2.3

Chapter 12 ---Data, Statistics, and Probability (Approx. 2 weeks)

Students will be able to construct graphs and interpret information illustrated by them, record and understand data in a frequency table, find measures of central tendency and range, construct and understand box-and-whiskers plots, and solve problems involving probability and the fundamental principle of counting.

N.S. 7.1.2

S.D.A.P. 7.1.1, 7.1.3

A. Indicate reference to state framework (s) standards:

The 7th grade California Mathematics Content Standards that have been identified as essential will be taught with an emphasis on those standards that appear on the General Mathematics CST (STAR) blueprint and the CAHSEE mathematics blueprint.

B. Student performance standards:

Students will complete assignments in class and homework. Individuals and/or group projects may be assigned. Students must have at least 60% of all assignments and projects points to pass. A unit test, end of unit project, and/or portfolios assignment may be given. 60% of the points possible on these assignments must be received to successfully complete this course.

Guidelines for overall grading are:

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

The suggested weight distribution is:

Test and quizzes	40%
Classwork and homework	30%
Attendance and participation	30%

C. Evaluation/Assessments/Rubrics

Tests will be administered at the end of the chapters. Teacher will generate additional tests/quizzes to administer at the end of 6-week grading periods.

Points are given for classwork, homework, quizzes and tests. Grades will be based on completeness and correctness.

D. Include minimal attainment for student to pass course:

Students must attain at least 50% of the points for homework, class-work, alternative assessment, quizzes and tests, in order to pass this course.