

Name of School:

Name of Course: **Cognitive Tutor Algebraic Principles**

### **Instructor Information**

**Name:**

**E-mail address:**

**School phone number:**

**Web page address:**

**Best times to be reached:**

### **Course Description**

This course is designed to improve the students' understanding of algebra readiness skills for their future success in Algebra 1. This course presents the algebra readiness curriculum in an alternative way: it combines state-of-the-art computer software with collaborative classroom activities. The software component, which represents 40% of the instructional time, allows students to work at their own pace using tools such as tables and models to represent and manipulate algebraic expressions and equations. The software immediately shows students whether their problem solving strategies and mathematical skills will be successful, allowing them to focus on correcting errors and developing mathematical skills that they find difficult. The text component allows students to collaborate with peers, to explore and solve real world problem scenarios, and to present solutions in class.

### **District Standards and Power Benchmarks**

**Number & Operations Standard: Understands and applies concepts of numbers and operations.**

1: Understands numbers, ways of representing numbers, relationships among numbers, and number systems

2: Understands meanings of operations and how they relate to one another

**Algebra Standard: Understands and applies concepts of algebra and functions**

1: Understands patterns, relations, and functions

2: Represents and analyzes mathematical situations and structures using algebraic symbols

3: Uses mathematical models to represent and understand quantitative relationships

**Data Analysis and Probability: Understands and applies concepts of data analysis and probability**

1: Collects, organizes, and displays data to answer a question

2: Uses statistical methods to describe data

**Problem Solving Standard: Understands and applies problem solving strategies**

1: Uses a variety of strategies to solve problems

**Communication: Communicates and reasons mathematically**

1: Expresses ideas using mathematical terms and representations

2: Uses tools (such as technology) to enhance mathematical learning

## Course Information

Course length: Two terms

Credit: 0.5 per term

Basic computer knowledge is recommended for this course. This course content is similar to Algebraic Principles in a different format. Students must pass first term in order to proceed to second term. (Students will be enrolled in this class on an as “needed” basis.)

## Course Outline/Calendar

Term 1: Chapter 1: Number Sense and Algebraic Thinking  
Chapter 2: Fractions  
Chapter 3: Operations with Fractions and Mixed Numbers  
Chapter 4: Decimals (4.1-4.6)  
Chapter 7: Integers (7.1-7.4)

Term 2: Chapter 5: Ratios and Proportions (5.1-5.4)  
Chapter 6: Percents (6.1-6.6)  
Chapter 7: Integers (7.5-7.7)  
Chapter 8: Algebraic Problem Solving (8.2-8.6, 15.1)  
Chapter 13: Linear Functions (13.1-13.5)  
Chapter 14: Number Systems (14.5, 10.4)  
Chapter 11: Probability (11.1-11.2)

\*\*(The calendar may be amended due to unforeseen circumstances.)

## Text/Other Required Materials/Resources

Text: *Bridge to Algebra* by Carnegie Learning

Students need to bring the following materials to class everyday: book, notebook or binder, and pencil.

## Instructional Procedures & Support

Students will be expected to participate in direct instruction, cooperative learning groups, and lab activities for all of the class period everyday in order to achieve success in this class. Students are also expected to complete all outside assignments prior to the next class meeting unless otherwise notified. Make-up guidelines will be clarified the first day of class. Students who are not understanding the material as presented in class are welcome to make an appointment to meet with the teacher before or after school.

## Classroom Management Procedures

Students are expected to be in class on time and prepared daily. Students are expected to stay in the classroom for the entire class period and are not allowed to leave class without permission.

## Assessment Plan

Major Course Assignments: Homework, tests, computer work, and group presentations.

Grades will be assessed in the following manner

Individual/Group Daily Practice	20%
Tests/Assessments	45%
Computer Lab	25%
Final Exam	10%

## Grading System

Grades will be determined by the DCSD Grading Scale.

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