

COURSE OVERVIEW

Mathematics

Course Number: 423

Course Name: SIMMS I

Content ID Code: MA

Course Description

This course is recommended for ninth grade students who did not test proficient on the PSSA at the eighth grade level. The content can be divided into one of two types. Some course units involve state standards that are not substantially addressed in the other grade 9-11 mathematics courses while the remainder of the concepts reinforce or introduce those learned in the student's other math classes. *Discussing, explaining* and *justifying* concepts through everyday experiences are a common happening in this course. Units typically have a single theme with a more in depth investigation of the theme occurring as the student progresses through the unit. The course begins with probability and statistics concepts, moves to concepts involving algebra and functions, and then ends with proportional relationships and the investigation of growth and decay.

Credits:

Course Creation Date:

Local Course #:

Instructional Time

Minutes:

Periods per Cycle

Cycles:

Clock Hours:

Methods of Assessment

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> 3-D Projects | <input type="checkbox"/> Debates | <input type="checkbox"/> Plays | <input type="checkbox"/> Simulations |
| <input type="checkbox"/> Anecdotal Records | <input type="checkbox"/> Demonstrations | <input type="checkbox"/> Portfolios | <input type="checkbox"/> Speeches |
| <input type="checkbox"/> Benchmarks | <input type="checkbox"/> Diary/Journals | <input type="checkbox"/> Presentations | <input type="checkbox"/> Standardized Tests |
| <input type="checkbox"/> Chapter Tests | <input type="checkbox"/> Final Tests | <input checked="" type="checkbox"/> Projects | <input type="checkbox"/> Student Self Evaluation |
| <input type="checkbox"/> Checklists | <input checked="" type="checkbox"/> Group Work | <input type="checkbox"/> Publisher Tests | <input type="checkbox"/> Teacher Made Tests |
| <input checked="" type="checkbox"/> Class Participation | <input type="checkbox"/> Interviews | <input type="checkbox"/> Quizzes | <input type="checkbox"/> Visuals |
| <input type="checkbox"/> Computer Products | <input type="checkbox"/> Laboratory Experiences | <input type="checkbox"/> Research Projects | |
| <input type="checkbox"/> Conferences | <input checked="" type="checkbox"/> Observations | <input type="checkbox"/> Role Play | |
| <input type="checkbox"/> Criterion-referenced Tests | <input type="checkbox"/> Performance Tasks | <input type="checkbox"/> Rubrics | |

Possible Adaptations

- | | | | |
|--|--|---|--|
| <input type="checkbox"/> Large Print Books | <input type="checkbox"/> Hands on Activities | <input type="checkbox"/> Peer Tutors | <input type="checkbox"/> Independent Study |
| <input type="checkbox"/> Audio Taped Tests | <input type="checkbox"/> Individual Aide | <input type="checkbox"/> Word Banks | <input type="checkbox"/> Contracts |
| <input checked="" type="checkbox"/> Extended Time | <input type="checkbox"/> Manipulatives | <input type="checkbox"/> Visual Cues | <input type="checkbox"/> Mentorships |
| <input checked="" type="checkbox"/> Preferential Seating | <input type="checkbox"/> Flash Cards | <input type="checkbox"/> Key Words | <input type="checkbox"/> Telescoping |
| <input type="checkbox"/> Advanced Organizers | <input type="checkbox"/> A Notetaker | <input type="checkbox"/> Acceleration | |
| <input type="checkbox"/> Additional Practice | <input type="checkbox"/> Wait Time | <input type="checkbox"/> Tiered Assignments | |
| <input type="checkbox"/> Alternate Assessments | <input type="checkbox"/> Computation Aids | <input type="checkbox"/> Expansions | |
| <input type="checkbox"/> Visualize the Auditory | <input type="checkbox"/> Study Guide | <input type="checkbox"/> Learning Centers | |

COURSE OBJECTIVES

SIMMS I

Total Objectives: 8

Course Objective #	Cognitive Level	Course Objective	Month
The student will			
423-01		The student will simulate simple lotteries and determine the probability of winning. The student will use the probability of winning to compute expected values.	
Application			September
423-02		The student will create tables and plots to summarize data. The student will interpret data displayed in various graphs and distributions. The student will calculate measures of central tendency and also of dispersion to compare two samples.	
Application			October
423-03		The student will use the Fundamental Counting Principle and tree diagrams to determine the number of possibilities in different problem solving settings. The student uses graphs to find optimal solutions to a problem.	
Application			December
423-04		The student will analyze scatterplots and line graphs. The student will compute slopes of lines and identify slopes as a ratio and as a rate of change. The student will develop the equation of a line in point-slope form or in slope-intercept form. The student will find the solution to a system of linear equations by using a graphing technology.	
Application			January
423-05		The student will calculate volumes of prisms with polygonal bases and estimate volumes of solids with irregular bases. The student will calculate rate of flow, write linear equations as mathematical models and interpret slope as a rate. The student will examine residuals and use them to evaluate the fit of a linear model. The student will then use models to make predictions.	
Application			February
423-06		The student will develop and use a mathematical model for population growth. The student will determine the growth rate of a population. The student will graph and interpret an exponential function in the form $y=abx$.	
Application			March
423-07		The student will calculate the volume of cylinders and prisms in a real-world context. The student will estimate the areas of irregular shapes. The student will model real-world events mathematically and make predictions from the model. The student will identify and/or graph direct and inverse proportions.	
Application			April
423-08		The student will use scale factors and proportions to solve for unknown measures in similar shapes. The student will develop the relationship between scale factors and areas in similar shapes. The student will investigate the relationship between scale factor and volume for similar shapes.	
Application			May