Advanced Quantitative Reasoning Syllabus

Course Description/Goals:

In Advanced Quantitative Reasoning, students will develop and apply skills necessary for college, careers, and life. Course content consists primarily of applications of high school mathematics concepts to prepare students to become well-educated and highly informed 21st century citizens. Students will develop and apply reasoning, planning, and communication to make decisions and solve problems in applied situations involving numerical reasoning, probability, statistical analysis, finance, mathematical selection, and modeling with algebra, geometry, trigonometry, and discrete mathematics.

Course TEKS/Objectives:

The Advanced Quantitative Reasoning TEKS (Texas Essential Knowledge and Skills) are organized into reporting categories, each focusing on a specific area of algebra. These categories include: Numeric Reasoning; Algebraic Reasoning; and Probability and Statistical Reasoning. Each category contains specific standards (TEKS) that students are expected to master.
https://tea.texas.gov/sites/default/files/ch111c.pdf

Course Outline:

Semester 1	Semester 2
-Using Rations, Rates, and Proportions -Using Averages, Weighted Averages, and Indices -Using Large and Small Numbers, Logs, and OOM -Using Matrices and Matrix Operations -Using Counting Principles, Permutations, and Combinations -Probability, Expected Values, and Odds -Probability- Addition Rule, Conditional and Compound Probabilities	-Statistical Information and Studies -Tabulating/Graphing Categorical Data -Using Tools of Statistics and Conducting a Statistical Study -Sequences and Linear Difference Equations -Proportional Models -Linear and Piecewise Functions -Exponential, Logistic, and Logarithmic Functions -Financial Models