A. Algebraic Reasoning Syllabus

Course Description/Goals:
This course modifies Algebra 1 content to meet the individual learning requirements of students as determined by the ARD committee. Applied Algebra I builds and develops on the knowledge and skills from mathematics in Grades 6-8, which provide a foundation in linear relationships, number and operations, and proportionality. Students will study linear, quadratic, and exponential functions and their related transformations, equations, and associated solutions. Students will connect functions and their associated solutions in both mathematical and real-world situations. Students will use technology to collect and explore data and analyze statistical relationships. In addition, students will study polynomials of degree one and two, radical expressions, sequences, and laws of exponents. Students will generate and solve linear systems with two equations and two variables and will create new functions through transformations.

Course TEKS/Objectives:
The Algebraic Reasoning TEKS (Texas Essential Knowledge and Skills) are organized into reporting categories, each focusing on a specific area of algebra. These categories include: Pattern and Structure; Number and Algebraic Methods; and Modeling from Data. 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
-Sequences and Linear Functions -Exponential Functions -Quadratic and Cubic Functions -Transforming Linear, Quadratic, Cubic, and Absolute Value Functions -Transforming and Analyzing Rational and Exponential Functions -Linear, Quadratic, and Square Root Functions -Cube Root and Logarithmic Functions	-Add, Subtract, Multiply Functions -Dividing, Composing, and Multiple Representations -Add, Subtract, and Multiply Polynomial Functions -Factoring and Dividing Polynomial Functions -Add, Subtract, and Scalar Multiplication of Matrices - Multiplying Systems of Matrices :