Honors Advanced Algebra: Concepts and Connections

Unit Name	Unit 1: Descriptive and Inferential Statistics	Unit 2: Exponential and Logarithmic Functions	Unit 3: Radical Functions	Unit 4: Modeling Polynomial Functions	Unit 5 (*DOE Unit 7*): Rational Functions	Unit 6 (*DOE Unit 5*): Investigating Linear Algebra and Matrices	Unit 7 (*DOE Unit 6*): Trigonometry and the Unit Circle	Unit 8: Culminating Capstone Unit
Time Frame	5 – 6 weeks	5 – 6 weeks	3 – 4 weeks	4 – 5 weeks	2 – 3 weeks	2 – 3 weeks	3 – 4 weeks	1 – 2 weeks
Standards	AA.DSR.2 AA.MM.1 AA.MP.1-5 A.DSR.10.1* (2 year implementation)	AA.FGR.3 AA.MM.1 AA.MP.1-8	AA.FGR.4 AA.MM.1 AA.MP.1-8	AA.FGR.5 AA.MM.1 AA.MP.1-8 A.PAR.6.3, 6.4* G.PAR.2.2, 2.3*	AA.FGR.8 AA.MM.1 AA.MP.1,2,4,5,7	AA.PAR.6 AA.MM.1 AA.MP.1,2,4,5,6,7	AA.GSR.7 AA.MM.1 AA.MP.1-8	ALL STANDARDS AA.MP.1-8
Content Specific Information	-Surveys and Studies -Population and Sample Distributions -The Normal Curve -Empirical Rule -Margin of Error and confidence intervals -Sampling Methods -Centers and Spread -Conceptual understanding of standard deviation	-Inverses -Graphing Log/Exponential Functions: Characteristics and Transformations -Create, interpret and solve exp/log (one and two variables). -Tables of exp/log - Properties of Logs -Real world application	-Rational exponents -Create, interpret, and solve radical equations (one and two variables). - Modeling and applications of radical functions. -Rational and irrational numbers. -Square root and cube root.	-Graph quadratics in context -Complex numbers and complex conjugate -Complex operations (no division) -Factor and solve quadratics (also in context) -Systems of quadratic and linear functions -Modeling with quadratics in context -Operations with polynomials -Fundamental theorem of algebra. (interpret from graph and functions) -Polynomial identities	- Rewrite simple rational expressions -Rational operations (all) -Graphing rationals and characteristics. -Solving rational equations. -Applications of rationals	- Matrices to represent data and perform operations. -Matrix representation of linear systems. -Inverse matrices. -Technology applications of matrices. -Modeling with matrices.	-Unit Circle -Trigonometric ratios -Applications of Unit Circle.	The capstone unit applies content that has already been learned in previous interdisciplinary PBLs and units throughout the school year. The capstone unit is an interdisciplinary unit that allows students to create a presentation, report, or demonstration that could include their models used to answer an overarching driving question.
Common Assessments/ Performance Projects	Unit Quiz Unit Test	Unit Quiz Unit Test	Unit Quiz Unit Test	Unit Quiz Unit Test	Unit Quiz Unit Test	Unit Quiz Unit Test	Unit Quiz Unit Test	Capstone Project
Differentiation For Tiered Learners	Marietta City Schools teachers provide specific differentiation of learning experiences for all students. Details for differentiation for learning experiences are included on the district unit planners.							