

## Algebra 3 and Trigonometry Updated 2020

### Course Description

This course is designed to improve the critical thinking and problem solving skills of students who desire additional preparation for college level mathematics. This course will provide students with \*CCR skills in the areas of polynomial and rational functions, exponential and logarithmic functions, and elementary and advanced trigonometry. Students may earn college credit for this course. Be sure to check additional requirements to see if you qualify for dual enrollment.

### Big Ideas

1. Basic functions are useful to solve basic level questions.
2. Higher level polynomial functions can be used to model real life situations.
3. Transcendental functions are useful in solving real life situations.
4. Basic trigonometry is useful in solving real life applications.
5. Analytical Trigonometry is used to create various identities and solve equations.
6. Complex numbers and vectors can be solved using trigonometric values.

### Essential Learning Objectives

ELO #	Essential Learner Outcome Description	Standards
1	Analyze different types of functions	A2.IF.A.1, 2
2	Build a function that models a relationship between two quantities	A2.FM.A.1
3	Determine and verify inverse functions	A2.BF.A.2
4	Translate between the geometric description and the equation for a conic section.	G.GPE.A.2
5	Derive the formulas for a variety of series and use the formulas to solve problems.	A1.LQE.B.1,3
6	Extend the domain of trigonometric functions using the unit circle	*
7	Model periodic phenomena with trigonometric functions	*
8	Apply Trigonometry to general triangles	G.SRT.C
9	Prove and apply trigonometric identities	*
10	Represent and model with vector quantities	*

\*These areas are those that are recommended to be covered in a fourth year advanced mathematics course and as such do not have any specific coding within the MLS Standards