# New York Mills High School

## Curriculum Document

Curriculum Area: Math

Course Name: Algebra I-Non-Linear

Common Course Catalog Number: 243

Length of Course: Semester

Pre-Requisite: Math 8

Grade Level: 9

**Course Description**:

In this course students will review how to write linear equations; how to solve for the variable; and how to solve linear equations. Then they will learn how to solve linear equations and linear inequalities

**Essential Learner Outcomes**

- Students will know how to solve linear inequalities.
- Students will know how to graph linear inequalities
- Students will know solve systems of linear equations and inequalities
- Students will know graph systems of linear equations and inequalities
- Students will know how to use systems of linear equations and inequalities
- Students will know how to solve exponents and exponential functions.
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**Units of Study:**

**Unit 1 (After the review of previous year)-**Students will write, solve, and graph linear inequalities in one variable, including compound inequalities. They will solve absolute value equations and inequalities, and will graph linear inequalities in two variables. Along the way, students will use their new skills to model real life situations.

**Unit 2**- Students will solve a system of two linear equations by using graphing, substitution, and linear combinations. The choice of method for solving a particular linear system is considered and linear systems that have one solution, no solution, or infinitely many solutions are identifies. Systems of linear inequalities are solved by graphing. Throughout the chapter, real-life problems are modeled using linear systems.

**Unit 3-** Students will learn how to multiply and divide expressions with exponents, including zero and negative exponents. They will use scientific notation to represent numbers and solve problems. They will graph exponential functions and use exponential functions to solve real-life problems that involve exponential growth and exponential decay. Students will also learn how to use technology to find a best-fitting exponential growth or decay model.