

NPSD Middle & High School Curriculum

Department: Mathematics

Course: Advanced Mathematical Applications

Promise Standards

- Students will be able to convert units effectively using unit analysis of various quantities including rates and multiple dimensions as they model different real world situations
- Students will be able to work with trigonometric functions to find lengths and angles in various situations and models
- Students will be able to work with the unit circle and understand radians to help them solve and investigate problems involving angular velocity and linear speed.
- Students will be able to work with various forms of linear equations to model different situations
- Students will be able to perform basic matrix operations and use a matrices to solve problems that can be modeled by a system of equations
- Students will be able to investigate and understand the properties exponential and logarithmic properties--both algebraic and graphic
- Students will be able to analyze data, make predictions about data, reach conclusions about data and defend these conclusions.
- Students will be able to model physical quantities with vectors and perform basic vector operations to combine these quantities
- Students will be able to model real world situations with quadratic functions and solve these equations to find desired information about the situation.
- Students will be able to solve and explore real world problems/situations that involve percents.