

Math Analysis Curriculum

This is a one year college prep class. Math Analysis is a course designed to extend their learning from Geometry and Algebra 2 to prepare students for calculus. The course is designed to cover topics of exponential functions and their graphs. The different types of functions include; polynomial; rational; exponential; logarithmic. The course will then continue the study of functions by introducing trigonometry, and analytic trigonometry. In addition, the following topics will be covered; polar coordinates; vectors; analytic geometry; systems of equations and inequalities; arithmetic and geometric sequences and series; counting and probability. Students will be introduced to the limit, derivative, and integral of a function. The Math Practice will complement these critical content standards so that students engage with the subject matter as they grow in mathematical mastery during their high school years. **Use of a graphing calculator is an integral part of the course.**

Chapter Topic List:

1. Linear, Quadratic Polynomial Functions
2. Inequalities and Functions
3. Exponents and Logarithms
4. Trigonometric Functions and Equations
5. Triangle Trigonometry and Trigonometric Equations
6. Polar Coordinates and Complex Numbers
7. Vectors and Determinants
8. Sequences and Series
9. Matrices
10. Combinatorics
11. Probability
12. Statistics
13. Limits, Series and Iterated Functions