

## ROSLYN HIGH SCHOOL

### DEPARTMENT : MATHEMATICS

**NAME OF COURSE: PRE-CALCULUS RESEARCH HONORS**

#### **GENERAL DESCRIPTION:**

Precalculus Research Honors is the course designed to meet the needs of the juniors who have accelerated in mathematics. Its purpose is to prepare students for the AP Calculus courses which they will take in their senior year. Topics are developed in greater depth and additional enrichment topics are added as time permits. Students will be exposed to the power of the graphing calculator.

#### **MAJOR TOPICS COVERED:**

Number Systems

Series and progressions

Mathematical induction

DeMoivre's Theorem

Analytic Geometry

Parametric Equations

Absolute values & inequalities

Introduction to limits

Complex numbers

Analysis of Functions

Polar Coordinates

**TEXTBOOK:** *Precalculus 5<sup>th</sup> Edition - Stewart*

#### **REQUIREMENTS:**

Students are expected to maintain a set of well organized notes in a mathematics notebook, complete daily homework assignments, and read selections from the text as assigned. Regular attendance is expected, and students are to make up work missed due to absences. Students should seek extra help during the school day in the mathematics study center or after school with the teacher when necessary. Appropriate behavior, respect for self and others, and participation in classroom activities are expected.

#### **RESEARCH REQUIREMENT:**

Students will be required to complete several independent study projects addressing topics from both within and outside of the normal curriculum.

#### **GRADING PROCEDURES:**

The grade for each of the four marking periods is determined by unit exams, quizzes, and timely completion of homework assignments. Extra credit options are given at the discretion of the teacher. A departmental midyear examination comprises one-fifth of the second quarter grade and a departmental final examination contributes one-fifth of the fourth quarter grade. The student's final average will be determined by averaging the four quarter grades and the final exam grade equally.