

## Math 3C Course Description: Pre-Calculus

Math 3C is the department's preparatory course for the Math 10 (Calculus) sequence. The goal of the course is to develop the mathematical knowledge and skills, as well as the critical thinking, analytical and problem-solving skills fundamental to the study of mathematics in general and calculus in particular. The course begins with a study of the algebraic properties of numbers, variables, equalities, and inequalities. The concept of a function is introduced, and algebraic, geometric, and numerical techniques are used to study the properties of functions. Specific functions, such as the polynomial and exponential, are studied in more detail. After a brief introduction to the concepts of trigonometry, trigonometric functions are examined.

## Math 4C Course Description: Pre-Calculus for Science and Engineering

Math 4C is the department's preparatory course for the Math 20 (Calculus for Science and Engineering) sequence. The goal of the course is to develop the mathematical knowledge and skills, as well as the critical thinking, analytical and problem-solving skills fundamental to the study of mathematics in general and calculus in particular. Math 4C differs from Math 3C in two important ways: the breadth of coverage of material is significantly greater and the depth of coverage and rigor is also greater. Additional topics covered include: trigonometric identities, conics, parametric and polar functions, vectors, and sequences and series among others. Greater depth of coverage is provided for many topics, e.g., complex zeros of polynomial functions.