

San Francisco State University
Department of Mathematics
Course Syllabus

MATH 109
Precalculus

Prerequisites

Satisfactory completion of ELM requirement.

Bulletin Description

Functions, graphing techniques, exponential and logarithmic functions, trigonometry. This course is equivalent to a standard precalculus course.

Course Objectives

This course assumes that students are familiar with intermediate algebra and have at least a rudimentary knowledge of basic trigonometry. The principle objective of Precalculus is for students to be prepared to take calculus. Students will learn more advanced algebraic techniques, the concept of functions, and techniques for graphing. Students will also learn the properties of exponential and logarithmic functions including their graphs and their applications to scientific problems. Finally students will learn how to solve a variety of problems involving the properties, graphs and identities of trigonometric functions. An important focus of the course is for students to engage in realistic problem-solving as opposed to rote memorization.

Evaluation of Students

Instructors design their own assessment schemes, which usually include graded weekly homework assignments, quizzes, examinations and a final exam. Homework assignments and examinations cover advanced algebra, functions and their graphs, exponential and logarithmic functions and trigonometry.

Course Outline

1. Review of intermediate algebra (2 weeks);
2. Graphing of Linear and Quadratic Equations (2 weeks);
3. Functions (3 weeks);
4. Exponential and logarithmic functions (3 weeks)
5. Trigonometric functions (4 weeks).

Textbooks and Software

Prelude to Calculus by Sheldon Axler, Wiley & Sons.

Submitted by: David Ellis Date: Sept. 2007