

Precalculus is a course that combines reviews of algebra, geometry, and functions into a preparatory course for calculus. The course focuses on the mastery of critical skills and exposure to new skills necessary for success in subsequent math courses. The first semester includes linear, quadratic, exponential, logarithmic, radical, polynomial, and rational functions; systems of equations; and conic sections. The second semester covers trigonometric ratios and functions; inverse trigonometric functions; applications of trigonometry, including vectors and laws of cosine and sine; polar functions and notation; and arithmetic of complex numbers.

Within each Precalculus lesson, students are supplied with a post-study Checkup activity that provides them the opportunity to hone their computational skills by working through a low-stakes problem set before moving on to formal assessment. Unit-level Precalculus assessments include a computer-scored test and a scaffolded, teacher-scored test.

The course is built to state standards and the National Council of Teachers of Mathematics (NCTM) standards.

Length: Two Semesters

Unit 1: Functions

Unit 2: Quadratic Functions

Unit 3: Polynomial and Rational Functions

Unit 4: Exponential and Logarithmic Functions

Unit 5: Conic Sections

Unit 6: Semester 1 Review and Exam

Unit 7: Introduction to Trigonometry

Unit 8: Trigonometric Functions

Unit 9: Working with Trigonometric Functions

Unit 10: Trigonometric Identities

Unit 11: Applications of Trigonometry

Unit 12: Complex Numbers

Unit 13: Semester 2 Review and Exam