

# MATH 140X : PreCalculus

**Credits:** 4

**Class Hours:** 4 lecture

**Prerequisites:** "C" or higher in MATH 103 or acceptable placement.

**Description:** MATH 140X will provide students with essential precalculus skills needed in Calculus. Topics of study include, but are not limited to: trigonometric concepts including trigonometric functions, solving triangles, inverse trigonometric functions, solving trigonometric equations, proving trigonometric identities, and applications of trigonometry such as vectors and polar coordinates; and algebraic concepts including graphing polynomials and rational functions. Additional topics may include an introduction to logic and proof, analytic geometry, complex polar representation, summation (sigma) notation, and limits.

**Semester Offered:** Fall, Spring

**Designation:**

Foundations (Quantitative Reasoning) – FQ

**Course Student Learning Outcomes (CSLOs):**

1. Evaluate and simplify algebraic and trigonometric expressions by applying appropriate formal rules or algorithms.
2. Construct proofs using trigonometric identities.
3. Apply theory from algebra, trigonometry and analytic geometry to symbolically model and solve various real world application problems.
4. Select and correctly utilize precise mathematical language and symbols to effectively communicate procedures and results.
5. Analyze and graph functions and equations involving algebra, trigonometry, and analytic geometry.