

State Dual Credit Precalculus Pacing Guide

Precalculus is designed to prepare students for college level STEM focused courses. Students extend their knowledge of the complex number system to use complex numbers in polynomial identities and equations. Topics for student mastery include vectors, parametric equations, and conic sections(circles and parabolas). Students use previous knowledge to continue progressing in their understanding of trigonometric functions using regression equations to model quantitative data.

Quarter 1

Number expressions

- Represent, interpret, compare, and simplify number expressions.

The Complex Number System

- Perform complex number arithmetic and understand the representation on the complex plane.
- Use complex numbers in polynomial identities and equations.

Interpreting Functions

- Analyze functions using different representations.

Model with Data

- Model data using regression equations.

Quarter 2

Reasoning with Equations and Inequalities

- Solve nonlinear inequalities.

Conic Sections

- Understand the properties of conic sections (circles and parabolas) and apply them to model real-world phenomena.

Building Functions

- Build new functions from existing functions.

Interpreting Functions

- Analyze functions using different representations.

Quarter 3

Trigonometric Functions

- Extend the domain of trigonometric functions using the unit circle.

Graphing Trigonometric Functions

- Model periodic phenomena with trigonometric functions.

Applied Trigonometry

- Use trigonometry to solve problems.

Trigonometric Identities

- Apply trigonometric identities to rewrite expressions and solve equations.

Interpreting Functions

- Analyze functions using different representations.

Quarter 4

Vectors and Matrix Quantities

- Represent and model with vector quantities.
- Understand the graphic representation of vectors and vector arithmetic.

Parametric Equations

-Describe and use parametric equations.

Interpreting Functions

-Analyze functions using different representations.

Polar Coordinates

-Use polar coordinates.