



Catalog Description:

This is the second course of a two-course sequence covering precalculus. In this course, topics covered will include systems of equations, trigonometry, inverse functions, and applications of functions (including previews of some calculus topics) along with appropriate review. This course is designed with an added emphasis on conceptual understanding of these topics as a preparation for Calculus.

Prerequisite:

A grade of C- or above in 1120 or 1148

Exclusions:

Not open to students with credit for 1121 or above.

Follow-up Courses:

Math 1151

Text:

Precalculus with Review 2 in Ximera.

Topics List:

8 Working with More Variables

8.1 Linear Systems of Equations

8.2 Non-linear Systems

8.3 Applications of Systems

Midterm 1

9 Origins of Trig

9.1 Right Triangle Trigonometry

9.2 The Unit Circle

9.3 Trig Identities

9.3.1 Pythagorean Identities

9.3.2 Half and Double Angle Formulas

9.3.3 Simplifying Trig Expressions and Equations with Identities

Midterm 2



10 Trigonometric Functions

- 10.1 From the Unit Circle to The Function Graph
- 10.2 Trig Functions as Functions, Transformations
- 10.3 Applications of Trig Functions

Midterm 3

11 Some Applications of Functions

- 11.1 Displacement vs. Distance Traveled
- 11.2 Solving Inequalities Graphically or Without a Graph
- 11.3 Average Rate of Change: Difference Quotients

Midterm 4

12 Inverse Functions in Depth

- 12.1 Inverse Functions Revisted
- 12.2 Properties of Logarithms, Solving Logarithmic Equations, Applications
- 12.3 Inverse Trigonometry and applications

Midterm 5

13 Preparation for Calculus

- 13.1 What is Calculus?
- 13.2 Ideas of Calculus 1
 - 13.2.1 Approximating with Nearby Values
 - 13.2.2 Secant Lines with Nearby Points
 - 13.2.3 Algebra of Secant Lines
 - 13.2.4 Applications of Secant Lines
- 13.3 Summation Notation and Approximating Areas

Midterm 6

14 Functions – The Big Picture

Final