

## Pre-Calculus Mathematics

\*\*\*\*\*

**YEAR COURSE OFFERED:** Every

**SEMESTER COURSE OFFERED:** Spring

**DEPARTMENT:** Math

**COURSE NUMBER:** 2412

**NAME OF COURSE:** Precalculus Mathematics

**NAME OF INSTRUCTOR:** Varies

\*\*\*\*\*

**The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.**

\*\*\*\*\*

### Learning Objectives

Upon successful completion of this course, students will:

1. Demonstrate and apply knowledge of properties of functions.
2. Recognize and apply algebraic and transcendental functions and solve related equations.
3. Apply graphing techniques to algebraic and transcendental functions.
4. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
5. Prove trigonometric identities.
6. Solve right and oblique triangles.

### Major Assignments/Exams

Three tests and a cumulative final exam.

### Required Reading

#### Functions Modeling Change: A Preparation for Calculus, 4th Edition

by Eric Connally, Deborah Hughes-Hallett, Andrew M. Gleason, Philip Cheifetz, Ann Davidian, Daniel E. Flath, Selin Kalaycioglu, Brigitte Lahme, Patti Frazer Lock, William G. McCallum, Jerry Morris, Karen R. Rhea, Ellen Schmierer, Pat Shure, Adam H. Spiegler, Carl Swenson, Elliot J. Marks  
with Frank Avenoso, Douglas Quinney, Katherine Yoshiwara  
November 2010, ©2011. J Wiley Publishers

### Recommended Reading

none

## **List of discussion/lecture topics**

- 1: Linear Functions and Change
- 2: Functions
- 3: Exponential Functions
- 4: Logarithmic Functions
- 5: Transformations of Functions and Their Graphs
- 6: Trigonometric Functions
- 7: Trigonometry
- 8: Compositions, Inverses, and Combinations of Functions
- 9: Polynomial and Rational Functions
- 10: Vectors
- 11: Sequences and Series
- 12: Parametric Equations and