MATH 110 – Trigonometry – SYLLABUS
Department of Mathematics
Millersville University

Description

For students preparing to take calculus who need additional background in trigonometry. Beginning with angles, numerical trigonometry and triangle solving, it develops the concepts and analytical skills required in calculus: identities, inverse functions, trigonometric equations, graphs and applications. (2 credits)

Prerequisites

MATH 101 or math placement testing/evaluation before registration and high school algebra I, II and geometry.

Course Objectives

By the conclusion of this course the successful student will be able to:

- Analyze and classify angles, converting between units, using the arc length formula, and using the relationship between linear and angular speed.
- Define and find the exact values of the six trigonometric functions.
- Apply the six trigonometric functions.
- Graph the six trigonometric functions by hand.
- Analyze and write equations of simple harmonic motion.
- Verify and apply trigonometric identities.
- Solve trigonometric equations.
- Define, use, and apply inverse trigonometric functions.
- Define, use, and apply the law of sines and law of cosines.

Assessment

Assessment of student achievement of the course objectives will vary from one instructor to another. Typical assessment will be made through work in class, homework, and examinations.

Use of Technology

Calculator: Graphing (TI-83/84 or equivalent). Note that you will not be permitted to share calculators during tests or quizzes. You also will not be able to use phones, PDAs, or CAS calculators (TI-89, 92, etc) on any in-class tests or quizzes.

Topics

- Measurement of Angles, Arcs, and Sectors
- The Trigonometric Functions
- Graphs of Trigonometric Functions
- Inverse Trigonometric Functions
- Basic Trigonometric Identities
- Sum and Difference Identities
- Trigonometric Equations
- Law of Sines and Law of Cosines