

University of North Alabama
Departmental Syllabus

COURSE TITLE: Pre-calculus Trigonometry

COURSE NUMBER: MA 113

CREDIT: 3 Semester Hours

COURSE PREREQUISITE: MA 112; or permission of the Chair of the Department of Mathematics and Computer Science. Not open to students with credit in MA 103.

COURSE DESCRIPTION: This course is a continuation of Pre-Calculus Algebra. It includes the study of trigonometric and inverse trigonometric functions and includes extensive work with trigonometric identities and trigonometric equations. The course also covers vectors, complex numbers, DeMoivre's Theorem, and polar coordinates. additional topics may include conic sections, sequences, and using matrices to solve linear systems.

OBJECTIVES:

1. The student shall demonstrate knowledge of elementary and trigonometric functions, standard mathematical vocabulary and symbols.
2. The student shall demonstrate ability to use fundamental mathematical operations, algorithms, and measurements.
3. The student shall demonstrate ability to use language and symbols of mathematics accurately in communication.
4. The student shall demonstrate ability to present and interpret data in graphical form.
5. The student shall demonstrate ability to select or create appropriate mathematical models to solve solve problems in mathematics and in other disciplines.

COURSE CONTENT:

- I. Trigonometric Functions
 1. Angles and Angular Measure
 2. Right Triangle Trigonometry
 3. Trigonometric Functions of Angles
 4. Graphs of Trigonometric Functions
- II. Trigonometric Identities
 1. Sums and Differences
 2. Double Angle
 3. Half Angle
 4. Product-to-Sum and Sum-to-Product
- III. Analytic Trigonometry
 1. Trigonometric Equations
 2. Inverse Trigonometric Functions
- IV. Applications
 1. Law of Sines
 2. Law of Cosines
 3. Complex Numbers
 4. Vectors
 5. Polar Coordinates

COURSE**REQUIREMENTS:**

The student will be responsible for regularly attending class, tests and completing assigned homework.

ACCOMMODATION STATEMENT:

In accordance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, the University offers reasonable accommodations to students with eligible documented learning, physical and/or psychological disabilities. Under Title II of the Americans with Disabilities Act (ADA) of 1990 and Section 504 of the Rehabilitation Act of 1973, a disability is defined as a physical or mental impairment that substantially limits one or more major life activities as compared to an average person in the population. It is the responsibility of the student to contact Developmental Services prior to the beginning of the semester to initiate the accommodation process and to notify instructors within the first three class meetings to develop an accommodation plan. Appropriate, reasonable accommodations will be made to allow each student to meet course requirements, but no fundamental or substantial alteration of academic standards will be made. Students needing assistance should contact Developmental Services.