

Course Syllabus
Southeast Missouri State University

Department of Mathematics
Title of Course: College Algebra and Trigonometry

Course No.: MA135
Revision: Fall 2014

I. Catalog Description and Credit Hours of Course:

Integrated course of College Algebra and Plane Trigonometry. Credit may not be received for MA 133 or MA 134 and MA 135. (5 hours)

II. Prerequisite(s):

MA106 with a grade of 'C' or higher or MA102 with a grade of 'CR' or a grade of 'C' or higher or MA095 with a grade of 'C' or higher or a required score on an appropriate COMPASS placement test, or ACT Math subscore of 22 or higher.

III. Objective of Course:

This course will develop students' capability to solve problems requiring a logical structure and to provide the essential algebraic and trigonometric background for work in other fields or courses. The students will gain insights into the importance of mathematical skills in almost all aspects of society by solving problems from many different disciplines. The students will also learn the basic knowledge of trigonometric functions and their relationships, as well as the applications of trigonometry.

IV. Student Learning Outcomes:

- A. Students will be able to construct and simplify a difference quotient.
- B. Students will be able to use the principles of exponential and logarithmic functions to graph, solve equations, and apply these functions to a real-life situation.
- C. Students will be able to apply trigonometric identities to solve real-life problems.

V. Expectations of Students:

- A. Attend classes
- B. Participate in classroom activities
- C. Be able to use graphing calculators
- D. Do assigned homework
- E. Pass quizzes and tests

VI. Course Outline:

Topic	Class Hours
Quadratic Equations and Complex Numbers	3
Coordinates and Graphs	5
Function Properties and Transformations	9
Polynomial and Rational Functions	8
Exponential and Logarithmic Functions	8
Trigonometric Functions	13
Analytic Trigonometry	10
Polar Form of Complex Numbers and Vectors	3
Analytic Geometry	4
Sequences	4
Examinations	5
Review	4
TOTAL	75

VII. Textbook:

Sullivan, M. (2012) *Algebra and Trigonometry (9th Ed.)*, Pearson.

VIII. Basis of Student Evaluation:

- A. Hour examinations – 65%
- B. Quizzes, homework, and class participation – 15%
- C. Final – 20%