Course Outline

Department of Mathematics
and Statistics

Minnesota State University, Mankato

Math 113 Trigonometry (3 semester hours)

Course Description:

Basic concepts of trigonometry as preparation for college level mathematics and science course work. Topics include: concepts of algebra (real numbers, functions, graphs of functions, exponential and logarithmic functions), trigonometric functions, analytic trigonometry, applications of trigonometry, and analytic geometry.

Prerequisites: Satisfy Placement Table in this section, or MATH 112 with “C” (2.0) or better.

Credit limitation: credit for this course will not be allowed after taking math 115, Precalculus Mathematics.

Learning Outcomes:

Students will be able to
1. Model real world problems using trigonometry.
2. Understand trigonometric relations and know when it is appropriate to use them.

Content Outline:

1. Basic algebraic concepts (real numbers, functions, graphs, exponential & logarithmic functions)
2. Trigonometric functions and graphs
3. Analytic trigonometry (identities)
4. Applications of trigonometry
5. Analytic geometry (conics, polar coordinates)

Textbook/Related Readings/Materials:

Barnett, Analytic Trigonometry with Applications (5th edition)
Fleming and Vargerg, Plane Trigonometry, A problem Solving Approach (2nd edition)
Gustafson and Frisk, Plane Trigonometry (4th edition)
Kaufmann, Trigonometry (2nd edition)
Rice and Strange, Plane Trigonometry (6th edition)
Swokowski and Cole, Fundamentals of Trigonometry (8th edition)