



Division:	Science/Mathematics	Area:	Mathematics
Course Number:	MATH 159	Course Name:	Trigonometry and Analytical Geometry
Prerequisite:	MATH 157 or two years high school algebra and one year high school geometry		
Corequisite:	NONE		
Hours Required:	Class: 45	Lab: 0	Credits: 3 (three)

Course Description/Purpose

This course covers the topics of circular functions, trigonometric functions, inverse trigonometric functions, trigonometric identities, conic sections, polar coordinates, sequences and induction. The purpose of this course is to teach students trigonometry and conic sections so that the students will have the prerequisites needed for the study of calculus. MATH 159 is a continuation of MATH 157. MATH 157 and MATH 159 are the equivalent of MATH 164.

Major Units

- Trigonometric Functions and Graphs
- Triangle Trigonometry
- Trigonometric Identities, Equations, and Inverse Trigonometric Functions
- Applications of Trigonometry
- Analytic Geometry
- Discrete Algebra

Educational/Course Outcomes

Student learning will be assessed by a variety of methods, including, but not limited to, quizzes and tests, journals, essays, papers, projects, laboratory/clinical exercises and examinations, presentations, simulations, portfolios, homework assignments, and instructor observations.

Cognitive Each student will be expected to *Identify/Recognize*. . .

- equations of the four conic sections;
- the differences between sequences and series;
- relations involving periodic functions;

Performance Each student will be expected to *Demonstrate/Practice*. . .

- solve higher degree polynomial equations using complex numbers;
- find the summation of all terms of the n^{th} term of binomial expansion;
- graph the trigonometric functions;
- solve equations involving trigonometric functions;
- identify and evaluate the principal values of the conic sections;
- transform a polynomial function or conic section by translation or rotation of axes;

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