COLLEGEWIDE COURSE OUTLINE OF RECORD

MATH 137, TRIGONOMETRY WITH ANALYTIC GEOMETRY

COURSE TITLE: Trigonometry with Analytic Geometry
COURSE NUMBER: MATH 137
PREREQUISITE: MATH 111 Intermediate Algebra or demonstrated competency through appropriate assessment or earning a grade of "C" or better in MATH 035 Fundamentals of Algebra II or MATH 043 Essentials of Algebra II
SCHOOL: Liberal Arts and Sciences
PROGRAM: Liberal Arts
CREDIT HOURS: 3
CONTACT HOURS: Lecture: 3
DATE OF LAST REVISION: Summer, 2011
EFFECTIVE DATE OF THIS REVISION: Fall, 2011

CATALOG DESCRIPTION: Presents an in-depth study of right triangle trigonometry, oblique triangles, vectors, graphs of trigonometric functions, trigonometric identities and equations and complex numbers in rectangular and polar/trigonometric forms, rectangular and polar coordinates and conics.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1.   Convert between degree measure and radian measure.
2.   Find trigonometric function values of any angle expressed in degree or radian measure.
3.   Solve right triangles.
4.   Solve oblique triangles using the laws of sine and cosine.
5.   Use and apply properties of vectors.
6.   Graph trigonometric functions.
7.   Utilize trigonometric identities.
8.   Solve trigonometric equations.
9.   Convert between rectangular and polar coordinate systems.
10.   Apply the properties of complex numbers in rectangular and polar forms.
11.   Determine the features of a conic section from a standard equation.
12.   Graph circles, parabolas, ellipses and hyperbolas.
13.   Use the above principles to solve practical applications.
14.   Use scientific/graphing calculator proficiently.
15.   Use computer technology which may include the Internet, the Web, email, or computer tutorials to enhance the course objectives.

COURSE CONTENT: Topical areas of study include –

Complex numbers   Angles and trigonometric functions
Right and oblique triangles   Vectors

Graphs of trigonometric functions	Trigonometric equations and identities
Rectangular and polar coordinates	Rational functions
Conics	

HOW TO ACCESS THE IVY TECH COMMUNITY COLLEGE LIBRARY:

The Ivy Tech Library is available to students' on- and off-campus, offering full text journals and books and other resources essential for course assignments. Go to http://www.ivytech.edu/library/ and choose the link for your campus.

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