

COLLEGEWIDE COURSE OUTLINE OF RECORD

MATH 137, TRIGONOMETRY WITH ANALYTIC GEOMETRY

COURSE TITLE: Trigonometry with Analytic Geometry

COURSE NUMBER: MATH 137

PREREQUISITE: Demonstrated competency through appropriate assessment or successful completion of MATH 100 Intermediate Algebra.

SCHOOL: Liberal Arts and Sciences

PROGRAM: Liberal Arts

CREDIT HOURS: 3

CONTACT HOURS: Lecture: 3

DATE OF LAST REVISION: Fall, 2011

EFFECTIVE DATE OF THIS REVISION: Fall, 2016

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

Right and oblique triangles

Graphs of trigonometric functions

Angles and trigonometric functions

Vectors

Trigonometric equations and identities

Rectangular and polar coordinates
Conics

Rational functions

CURRENT STATEWIDE GRADING SCALE

A	90 – 100
B	80 – 89
C	70 – 79
D	60 – 69
F	0 – 59

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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