

# COLLEGEWIDE COURSE OUTLINE OF RECORD

## MATH 136, COLLEGE ALGEBRA

COURSE TITLE: College Algebra

COURSE NUMBER: MATH 136

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, 2012

EFFECTIVE DATE OF THIS REVISION: Fall, 2014

CATALOG DESCRIPTION: Presents an in-depth study of functions, quadratic, polynomial, radical, and rational equations, radicals, complex numbers, systems of equations, rational fractions and exponential and logarithmic functions. MATH 136 and MATH 137 together comprise a standard two-semester college algebra and trigonometry course.

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

1. Determine, evaluate, and graph functions using techniques of transformations.
2. Simplify and perform operations on complex numbers.
3. Simplify rational expressions.
4. Perform operations on radicals.
5. Solve radical equations including equations that contain two or more radicals.
6. Solve quadratic and rational equations and inequalities.
7. Apply the concepts of ratio, proportion and combined variation.
8. Apply the properties of logarithms to solve exponential and logarithmic equations.
9. Solve polynomial equations and graph polynomial functions.
10. Graph exponential and logarithmic functions.
11. Graph rational functions.
12. Solve systems of equations with three variables.
13. Solve a variety of application problems in the above areas.
14. Use a scientific and/or graphing calculator proficiently as related to coursework.
15. Use computer technology which may include the Internet, the Web, e-mail or computer tutorials to enhance the course objectives.

COURSE CONTENT: Topical areas of study include --

Functions

Graphs of equations and functions

Variation

Exponential and logarithmic functions

Quadratic, polynomial, rational and radical equations

Radicals and rational expressions

Systems of equations

Complex Numbers

Complex Numbers  
Exponential and logarithmic functions  
Quadratic, polynomial, rational and radical equations

Systems of equations

**SUPPLIES REQUIRED:**

Scientific and/or Graphing Calculator

**CURRENT STATEWIDE GRADING SCALE:**

Grading Scale

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

This course requires a statewide outcomes assessment

**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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