COLLEGEWIDE COURSE OUTLINE OF RECORD

MATH 136, COLLEGE ALGEBRA

COURSE TITLE: College Algebra
COURSE NUMBER: MATH 136
PREREQUISITES: 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, 2016
EFFECTIVE DATE OF THIS REVISION: Spring, 2017

CATALOG DESCRIPTION: Presents an in-depth study of functions, quadratic, polynomial, radical, and rational equations, radicals, complex numbers, absolute value equations and inequalities, 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.   Solve radical equations including equations that contain two or more radicals.
4.   Solve rational and absolute value equations and inequalities.
5.   Solve quadratic equations and inequalities using multiple techniques, solve equations that are quadratic in form using u-substitution, and determine the vertex to graph a quadratic function.
6.   Apply the properties of logarithms to solve exponential and logarithmic equations.
7.   Solve polynomial equations and sketch polynomial functions
8.   Sketch exponential and logarithmic functions.
9.   Sketch rational functions using intercepts and asymptotes.
10.   Determine composite and inverse functions.
11.   Use function notation, determine domain of functions, find properties of functions (increasing, decreasing, maximum and minimum) and simplify difference quotients.
12.   Solve a variety of application problems in the above areas.
13.   Use a scientific and/or graphing calculator proficiently as related to coursework.
14.   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

Radicals and rational expressions
Graphs of equations and functions

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

For all course exams, the following conditions must be met:
- No student-provided materials
- No open books
- No take-home

For the final exam:
- Must be comprehensive
- Weighted more than a chapter test

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.

ACADEMIC HONESTY STATEMENT:

The College is committed to academic integrity in all its practices. The faculty value intellectual integrity and a high standard of academic conduct. Activities that violate academic integrity undermine the quality and diminish the value of educational achievement.

Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or

distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior.

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ADA STATEMENT:

Ivy Tech Community College seeks to provide reasonable accommodations for qualified individuals with documented disabilities. If you need an accommodation because of a documented disability, please contact the Office of Disability Support Services.

If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classroom.