

COLLEGEWIDE COURSE OUTLINE OF RECORD

MAT 133, COLLEGE ALGEBRA WITH ANALYTIC GEOMETRY

COURSE TITLE: College Algebra with Analytic Geometry

COURSE NUMBER: MAT 133

PREREQUISITES: Successful completion of MAT 111 Intermediate Algebra or demonstrated competency through appropriate assessment.

DIVISION: General Education

PROGRAM: General Education

CREDIT HOURS: 4

CONTACT HOURS: Lecture: 4

DATE OF LAST REVISION: Spring, 2005

EFFECTIVE DATE OF THIS REVISION: Summer, 2005

CATALOG DESCRIPTION: Presents an in-depth study of functions, quadratic, polynomial, radical, and rational equations, radicals, complex numbers, systems of equations, matrices, exponential and logarithmic functions, and conics. A standard College Algebra course.

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

1. Determine, evaluate, and graph functions.
2. Simplify and perform operations on complex numbers.
3. Simplify rational expressions.
4. Simplify and perform operations on radicals.
5. Solve radical equations.
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. Solve systems of equations with three variables.
12. Perform operations on matrices.
13. Determine the features of a conic section from a standard equation.
14. Graph circles, parabolas, ellipses and hyperbolas.
15. Solve a variety of application problems in the above areas.
16. Use a scientific and/or graphing calculator proficiently as related to coursework.
17. 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 --

Functions	Radicals and rational expressions
Complex numbers	Graphs of polynomial functions
Conics	Quadratic, polynomial, rational and radical equations
Systems of equations	Exponential and logarithmic functions
Matrices	Variation

SUPPLIES REQUIRED:

Scientific and/or Graphing Calculator

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.

ADA STATEMENT:

Ivy Tech State 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.