COMMUNITY COLLEGE OF ALLEGHENY COUNTY
CREDIT COURSE SYLLABUS

COURSE NUMBER: MAT108

COURSE TITLE: Intermediate Algebra

CREDITS: 4

HOURS: Lecture: 4 Lab: Clinical:

Studio: Practicum:

PREREQUISITES: MAT 090 (minimum grade "C") or successful placement.

COREQUISITES: None

CATALOG COURSE DESCRIPTION:
A course in Intermediate Algebra. Included are such topics as operations with linear, quadratic, rational, absolute value and higher degree polynomial equations and functions; exponents, radicals and complex numbers; Cartesian coordinate system including lines and conic sections; systems of equations.

LEARNING OUTCOMES:
Upon successful completion of the course the student will:
1. Simplify and evaluate expressions involving exponents, roots and radicals.
2. Perform operations on polynomial and rational expressions.
3. Solve linear equations and inequalities.
4. Solve quadratic equations by factoring, completing the square and using the quadratic formula.
5. For a given function, identify its domain and range; compute function values.
6. Solve equations and inequalities which contain absolute values.
7. Solve systems of linear equations in two and three variables.
8. Graph linear equations on the Cartesian plane without the aid of a calculator.
9. Identify equations of various conic sections and sketch their graphs on the Cartesian plane without the aid of a calculator.
10. Analyze and evaluate polynomial functions.
11. Solve linear and quadratic applied problems.
12. Solve equations which contain logarithmic and exponential functions (optional)
13. Solve radical equations.

LISTED TOPICS:
1. Solving Linear Equations and Inequalities
2. Graphs, Functions, and Applications
3. Systems of Equations
4. Polynomials and Polynomial Functions

5. **Rational Expressions, Equations, and Functions**
6. **Radical Expressions, Equations, and Functions**
7. **Quadratic Equations and Functions**
8. **Exponential and Logarithmic Functions (optional)**
9. **Conic Sections**

REFERENCES. RESOURCE, OR LEARNING MATERIAL TO BE USED BY THE STUDENT:
Each student will be required to have the textbook adopted by the Mathematics Department at the specific campus. Each student may be required by a specific instructor to have an appropriate calculator. If available, students may make use of the interactive software and videotapes located in the Learning Center or Math Lab of each campus.

Approval by the President: Dr. Sutin 07/13/2006

Start Year/Term: _____

Revised 5.9.06
Reformatted 02/2//2018