Alabama Community College System

MTH 100
Intermediate College Algebra

I. MTH 100 Intermediate College Algebra – 3 Semester Hours

II. Course Description

This course provides a study of algebraic concepts such as laws of exponents, polynomial operations, factoring polynomials, radical and rational expressions and equations, and quadratic equations. Functions and relations are introduced and graphed. This course does not apply toward the general core requirement for mathematics.

III. Prerequisite

Grade of C or higher in MTH 098 Elementary Algebra or appropriate mathematics placement score.

COREQUISITE: MTH 099 Support for MTH 100 OR other mandatory support, if required. (Note that MTH 099 or other mandatory support is required for students completing MTH 098 Elementary Algebra.)

IV. Textbook

V. Due to the varied selection of quality college-level textbooks, each college will select the textbook needed to meet the requirements of this course.

VI. Course Learning Outcomes

By the end of the course, students will be able to:

1. Solve problems involving exponents and polynomials.

2. Factor polynomials.
3. Solve or simplify problems related to rational expressions.
4. Solve or simplify problems related to radical expressions.
5. Solve quadratic equations.
6. Evaluate basic algebraic functions.

VII. Course Outline of Topics

Required Topics

1. Use the laws of integral exponents to simplify expressions.
2. Convert between decimal notation and scientific notation.
3. Define terms associated with polynomials.
4. Complete basic operations with polynomials.
5. Define terms associated with factoring
6. Factor polynomials using the greatest common factor.
7. Factor polynomials by grouping.
8. Factor trinomials.
9. Factor special products.
10. Factor a sum or difference of cubes
11. Identify any restricted values of a rational expression.
12. Simplify rational expressions.
13. Simplify complex fractions.
14. Solve rational equations
15. Solve applications involving rational equations.
16. Simplify radical expressions.
17. Complete arithmetic operations involving radical expressions.
18. Solve radical equations.
19. Convert between radical form and rational exponent form
20. Solve quadratic equations using factoring.
21. Solve quadratic equations using the quadratic formula.
22. Solve applications involving quadratic equations.
23. Define the vocabulary associated with algebraic functions.
24. Use function notation to calculate function values
25. Graph linear functions.
26. Determine the domain and range of a given function.
27. Apply the vertical line test to determine if a graph represents a function.
28. Evaluate a function using the order of operations.

VIII. Evaluation and Assessment

Grades will be given based upon A = 90 – 100%, B = 80 – 89%, C = 70 – 79%, D = 60 – 69%, and F = below 60%.

IX. Attendance

Students are expected to attend all classes for which they are registered. Students who are unable to attend class regularly, regardless of the reason or circumstance, should withdraw from that class before poor attendance interferes with the student's ability to achieve the objectives required in the course. Withdrawal from class can affect eligibility for federal financial aid.

X. Statement on Discrimination/Harassment

It is the official policy of the Alabama Community College System and entities under its control, including all Colleges, that no person shall be discriminated against on the basis of any impermissible criterion or characteristic, including, without limitation, race, color, national origin, religion, marital status, disability, sex, age, or any other protected class as defined by federal and state law. (ACCS Policies 601.02 and 800.00)

XI. Americans with Disabilities

The Rehabilitation Act of 1973 (Section 504) and the *Americans with Disabilities Act* of 1990 state that qualified students with disabilities who meet the essential functions and academic requirements are entitled to reasonable accommodations. It is the student's responsibility to provide appropriate disability documentation to the College