Alabama Community College System

MTH 110
Finite Mathematics

I.   MTH 110 Finite Mathematics —3 Semester Hours

II.   Course Description

This course provides an overview of topics in finite mathematics together with their applications and is intended for students who are not majoring in science, engineering, commerce, or mathematics (i. e., students who are not required to take calculus). The course introduces logic, set theory, counting techniques, basic probability, statistics, and personal finance.

III.   Prerequisite

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

COREQUISITE: MTH 109 Support for Finite Mathematics OR other mandatory support, if required. (Note that MTH 109 or other mandatory support is required for students completing MTH 098 Elementary Algebra.)

IV.   Textbook

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

V.   Course Learning Outcomes

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

1.   apply the laws of logic to identify valid arguments and fallacies,
2.   apply the properties of set theory,
3.   utilize counting principles and principles of probability to calculate probability and make conclusions,
4.   utilize statistical methods to analyze and interpret data, and
5.   apply the concept of interest to personal finance problems.

VI.   Course Outline of Topics

Required Topics

1. Logic statements, quantifiers, and negations
2. Truth tables
3. Logical equivalents and De Morgan's Laws
4. Valid arguments and fallacies
5. Sets
6. Application of Venn diagrams
7. Counting techniques
8. The multiplication principle
9. Permutations
10. Combinations
11. Basic concepts of discrete probability and expected value
12. Outcomes with unequal probability
13. Conditional probability
14. Measures of central tendency
15. Measuring dispersion of data
16. Continuous random variables and the normal distribution
17. Simple interest
18. Compound interest
19. Stocks, bonds, and mutual funds
20. Home ownership and amortization
21. Credit cards and consumer loans

VII. 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%.

VIII. 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.

IX. 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)

X. 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.