



Alabama Community College System

MTH 231 Math for the Elementary Teacher I

I. MTH 231 Math for the Elementary Teacher I– 3 Semester Hours

II. Course Description

This course is designed to develop a deeper understanding of elementary school mathematics content needed for teaching. The course is designed to develop conceptual understanding of number systems and operations by focusing on basic concepts and principles, exploring multiple representations and strategies, and illuminating connections among concepts and procedures. Topics include whole numbers and integers, fractions, ratio, percent, decimals, and arithmetic operations within these systems.

III. Prerequisite

Grade of C or higher in MTH 100 or appropriate placement score

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. solve problems using a variety of problem-solving strategies;
2. perform operations using basic properties of sets;
3. perform operations on whole numbers;
4. perform operations on integers;
5. perform operations on fractions;
6. perform operations on decimals; and
7. perform operations on percentages, ratios, and proportions.

VI. Course Outline of Topics

1. Problem solving
2. Reasoning mathematically
3. Sets and operations on sets
4. Sets, counting, and whole numbers
5. Addition and subtraction of whole numbers
6. Multiplication and division of whole numbers
7. Numeration system past and present
8. Non-decimal positional system
9. Algorithms for adding and subtracting whole numbers
10. Algorithms for multiplying and dividing whole numbers
11. Mental arithmetic and estimation
12. Divisibility of natural numbers
13. Tests for divisibility
14. Greatest common divisor and least common multiples
15. Integers
16. Representation of integers
17. Addition and subtraction of integers
18. Multiplication and division of integers
19. Basic concepts of fractions and rational numbers
20. The arithmetic of rational numbers
21. The rational number system
22. Decimals and real numbers
23. Computations with decimals
24. Ratio and proportion
25. Percent

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.