

SOUTHEAST COMMUNITY COLLEGE
DIVISION OF ARTS AND SCIENCES
Mathematics
Revision Date: 07-01-23

I. CATALOG DESCRIPTION

Course Number: MATH1103
Course Title: Intermediate Algebra Module III
Prerequisite(s): A grade of "B" or higher in MATH1102 OR co-enrollment in MATH1102. The prerequisite must be completed before the current course is completed.
Catalog Description: Study of complex numbers, solving quadratic equations, graphing quadratic functions, dividing radical expressions, and solving radical equations. The prerequisite must be completed before the current course is completed.
Credit Hours: 1.0
Class Hours: 15
Lab Hours: 0
Total Contact Hours: 15

II. COURSE OBJECTIVES: *Course will:*

- A. Develop a familiarity with complex numbers and their properties.
- B. Develop techniques for solving radical and quadratic equations and applications.
- C. Develop techniques for graphing quadratic functions.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

- A. Student learning outcomes: *Student will be able to:*
 - 1. Simplify expressions involving operations with complex numbers.
 - 2. Simplify expressions involving division with radicals.
 - 3. Use a variety of techniques to solve radical and quadratic equations.
 - 4. Graph quadratic functions and interpret the graph of a function as related to applications.
 - 5. Use problem solving skills to solve applications.
- B. General education learning outcomes
 - 1. GELO #5: Analytical, Quantitative, and Scientific Reasoning
 - Outcome: Apply mathematical and scientific methods to solve problems from an array of contexts and everyday situations.
 - Outcome: Effectively develop strategies, algorithms, or experiments (or performing experiments) to better describe the systems or to solve the problems.
 - Outcome: Manipulate formulas, data sets, graphs, tables, etc. in a way to produce a meaningful outcome.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)

- A. Dividing Radical Expressions and Solving Radical Equations.
- B. Solving Quadratic Equations using Factoring, Completing the Square, and the Quadratic Formula.
- C. Complex Numbers and Solving Quadratic Equations and Equations Quadratic in Form.
- D. Graphing Quadratic Functions.

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s):
 - 1. Direct Digital Access to MyLab Math (through Canvas) will be billed to your student account. ISBN: 9780136825456.
- B. Other Resources:

1. Paper and writing instrument
2. Scientific calculator (recommended)

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Methods of presentation typically include a combination of following:

1. Assigned reading and homework assignments for the student to do in class or outside of class on MyMathLab.
2. Individual tutorial with the student on any subject matter which the student is having difficulty comprehending.
3. Additional tutorial through the Multi Academic Center.
4. Mini-lectures.

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:

1. MyMathLab HW
2. Module exam

C. GRADING SCALE

A+	95-100
A	90-94
B+	85-89
B	80-84
F	79 or less

VIII. SPECIFIC COURSE REQUIREMENTS

A. To successfully complete this course, the student must complete all assigned work and score 80% or better on the module exam. All work must be completed by the end of the quarter the student is registered.