**SOUTHEAST COMMUNITY COLLEGE**
**DIVISION OF ARTS AND SCIENCES**
**Mathematics**
**Revision Date: 07-01-22**
Syllabus Statements

## I. CATALOG DESCRIPTION

| | |
|---|---|
| Course Number: | MATH1100 |
| Course Title: | Intermediate Algebra |
| Prerequisite(s): | A grade of "C" or higher in MATH0950, or a grade of "B" or higher in MATH0953 or appropriate score on math placement test. |
| Catalog Description: | Study of 2nd year algebra at a college level with emphasis on: Techniques for simplifying algebraic expressions, solving algebraic equations and inequalities, functions and their properties and graphs, complex numbers, quadratic equations and inequalities, graphs of quadratic functions, and systems of equations and inequalities. May not fulfill the math requirement for the associate degrees-check with transfer institution. |
| Credit Hours: | 3.0 |
| Class Hours: | 45 |
| Lab Hours: | 0 |
| Total Contact Hours: | 45 |

## II. COURSE OBJECTIVES: *Course will:*

**A.** Introduce real and complex numbers and their properties.
**B**. Teach students to solve linear systems of equations in two and three variables.
**C**. Teach students to solve linear systems of inequalities in two variables.
**D**. Teach students to solve absolute value, polynomial, rational, and radical equations.
**E**. Teach students to solve absolute value and polynomial inequalities.
**F**. Teach students to perform operations on algebraic expressions.
**G**. Introduce functions, functional notation, and interpretation of functions and their graphs.
**H**. Teach students to graph quadratic functions and solve quadratic equations and inequalities.

## III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

**A.** Student Learning Outcomes**:** *Student will be able to:*

**1**. Simplify expressions involving real and complex numbers.
**2**. Solve linear systems of equations in two and three variables.
**3**. Solve linear systems of inequalities in two variables.
**4**. Solve absolute value, polynomial, rational, and radical equations.
**5**. Solve absolute value and polynomial inequalities.
**6**. Perform operations on algebraic expressions to simplify.
**7**. Graph elementary functions, find the domain and range of elementary functions, and interpret the graph of a function as related to applications.
**8**. Use problem solving skills to model and solve applications involving rational equations, systems of equations, and quadratic equations.

**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.

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

**A.** Solving Systems of Linear Equations in Two and Three Variables.
**B**. Solving Systems of Linear Inequalities in Two Variables.
**C**. Simplifying Rational Expressions, and Solving Rational Equations with Applications.
**D**. Functions and Their Graphs with Applications.
**E**. Simplifying Radical Expressions and Expressions with Rational Exponents.
**F**. Solving Radical Equations and Equations with Rational Exponents.
**G.** Solving Absolute Value Equations and Inequalities
**H.** Solving Polynomial Equations and Inequalities.
**I**. Simplifying Expressions involving Complex Numbers.
**J**. Solving Quadratic Equations.
**K**. Graphing Quadratic Functions.

## V. INSTRUCTIONAL MATERIALS

**A.** Required Text(s):

**1.** Sullivan, Elementary & Intermediate Algebra 4th edition, Pearson, 2017
*(Note that your book will be available to you through MyMathLab Inclusive Access. Your instructor will provide you with the instructions on how this will work.)*

**2.** Scientific Calculator

**B.** Optional Resources:

**1**. Sullivan, Elementary & Intermediate Algebra 4th edition Loose-leaf book

## VI. METHODS OF PRESENTATION/INSTRUCTION

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

**1**. Lecture
**2**. Small Group Work
**3**. Guided practice

## VII. METHODS OF EVALUATION

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

**1.** Homework
**2**. Quizzes and/or Worksheets
**3**. Exams
**4**. Comprehensive Final Exam

**B.** SCC GRADING SCALE:

| | | | | | |
|---|---|---|---|---|---|
| A+ | 95-100 | C+ | 75-79 | F | 59 or less |
| A | 90-94 | C | 70-74 | | |
| B+ | 85-89 | D+ | 65-69 | | |
| B | 80-84 | D | 60-64 | | |

## VIII. SPECIFIC COURSE REQUIREMENTS

**A.** None