SEWARD COUNTY COMMUNITY COLLEGE
COURSE SYLLABUS

I. TITLE OF COURSE: MA1103 - Intermediate Algebra

II. COURSE DESCRIPTION: 3 credit hours credit hours
3 credit hours of lecture credit hours of lecture and 0 credit hours of lab per week. credit hours of lab per week.

A study of basic algebra, beginning with linear equations and continuing through quadratic equations. A brief review of basic definitions, properties and operations of signed numbers and algebraic expressions; linear equations and inequalities in one variable; rectangular coordinates, functions and graphs; slope and graphs of linear equations; polynomials and factoring; rational expressions; radicals and complex numbers; quadratic equations, inequalities and graphs; systems of equations and inequalities.

EduKan course number: MA177

Pre-requisite:
"C" or better in Beginning Algebra or a satisfactory score on the ACCUPLACER Placement Test

III. PROGRAM AND/OR DEPARTMENT MISSION STATEMENT:

The Mathematics Department at Seward County Community College will enhance a student's ability to think critically using mathematical principles, ideas, and concepts in order to function in a society with ever-changing technology.

IV. TEXTBOOK AND MATERIALS:

1. Bittinger, Intermediate Algebra, 13th Edition, Pearson (Optional)
2. MyMathLab Access Code (Given in Class)
3. Scientific Calculator

V. SCCC OUTCOMES:

IV. Demonstrate mathematical skills using a variety of techniques and technologies.
V. Demonstrate the ability to think critically by gathering facts, generating insights, analyzing data, and evaluating information

VI. COURSE OUTCOMES:

1. To develop the basic mathematical concepts that forms the foundation of algebra.
2. To utilize procedures for manipulating algebraic expressions, including the properties of real numbers and order of operations.
3. To communicate your understanding of mathematics to others.
4. To solve linear equations and inequalities in one variable.

5. To solve absolute value equations and inequalities in one variable.
6. To express a variety of word problems as equations and determine their solution.
7. To use the properties of linear functions for graphing.
8. To use properties of basic nonlinear functions and determine their graphs.
9. To add, subtract, multiply and divide algebraic expressions, polynomials, and rational expressions.
10. To factor a variety of expressions.
11. To simplify expressions containing exponents and radicals.
12. To solve basic polynomial, rational, and radical equations.

VII. COURSE OUTLINE:

1. Linear equations and inequalities in one variable. Finding solutions to linear equations in one variable and solving application problems using linear equations. Solving absolute value equations and linear inequalities in one variable. Solving systems of linear equations.
2. Linear equations in two variables. Graphing on the Cartesian coordinate system. Finding slopes and equations of lines. Finding parallel and perpendicular lines. Graphing linear inequalities in two variables.
3. Polynomials Defining monomials, binomials, trinomials, and determining the terms, coefficients, and degrees of polynomials. The rules of exponents using integer exponents. Using operations with polynomials, including factoring. Solving quadratic equations by factoring.
4. Rational Expressions: Performing basic operations with rational expressions. Reducing complex fractions. Solving equations involving rational expressions and using rational equations in applications.
5. Radical Expressions: Simplifying radicals and converting to rational exponents. Operations with radicals and exponents. Solving equations involving radicals. Introducing complex numbers and basic computations with complex numbers.
6. More Quadratic Equations: Solving quadratic Equations by completing the square and the quadratic formula. Solving equations in quadratic form.

VIII. INSTRUCTIONAL METHODS:

1. Lecture. The presentation of new theory is followed by illustrative examples.
2. Assignments. A study of the text and the working of selected problems are required in order to involve the student and assure his understanding sufficiently to use skills as required for future work.
3. Supplementary texts. A collection of supplementary texts is available in the library and students are encouraged to read widely in the carious topics.
4. Whiteboard drill. This drill will occur often in the scheduled class periods, and all students are required to participate.
5. Online computer quizzes and exams may be assigned depending on the instructor.
6. Class discussion. Questions may be initiated by either the teacher or students at any time during class discussions.
7. Demonstrations. Models, visuals aids, etc., are used to convey and clarity ideas.

8. Examinations. Tests and quizzes are used frequently to help summarize concepts and emphasize important skills.

9. Individual help. Each student is encouraged to come for the instructor's help, providing he or she has been attending class regularly, as he or she has difficulty. Office hours are posted.

IX. INSTRUCTIONAL AND RESOURCE MATERIALS:

1. Textbook
2. Supplemental texts and library mathematics reference books
3. Supplementary material prepared by the instructor
4. The whiteboard is the major tool used for lecture presentation and demonstrations
5. Graph grids, charts, and other standard mathematics construction equipment
6. Demonstrative equipment, charts, posters, models, selected film strips, etc. are use as necessary
7. SMART Podium and whiteboards are used for lecture presentations and problem solving

X. METHODS OF ASSESSMENT:

SCCC Outcome #4 will be assessed and measured by class participation and tests.
SCCC Outcome #5 will be assessed and measured using assignments, tests, and non-traditional problem-solving activities.

XI. ADA STATEMENT:

Under the Americans with Disabilities Act, Seward County Community College will make reasonable accommodations for students with documented disabilities. If you need support or assistance because of a disability, you may be eligible for academic accommodations. Students should identify themselves to the Dean of Students at 620-417-1106 or go to the Student Success Center in the Hobble Academic building, room A149.

XII. CORE OUTCOMES PROJECT:

The learning outcomes and competencies detailed in this course outline or syllabus meet, or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups project for this course as approved by the Kansas Board of Regents
KRSN: MAT0990

Syllabus Reviewed: 5/17/22