COURSE TITLE: Elementary Algebra
COURSE NUMBER: MATH0099
CREDIT HOURS: 3
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: Departmental Syllabus

KCKCC-issued email accounts are the official means for electronically communicating with our students.

PREREQUISITE(S): 1) Grade of “C” or higher in MATH0097 Math Essentials OR
2) COMPASS Pre-Algebra Test score of 46 – 100 and Grade of “C” or higher in READ0091 or COMPASS Reading Test score of 56 or higher OR
3) COMPASS Algebra Test score of 0 – 45 if COMPASS Reading Test score is 56 or higher

REQUIRED TEXT AND MATERIALS:
Please check with the KCKCC bookstore http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION: Elementary Algebra is an introductory course for students who have a solid foundation in arithmetic. Topics studied will include operations with signed numbers, linear equations and inequalities, problem solving, graphs of linear equations, operations with polynomials, factoring, quadratic equations, rational expressions, and radical expressions. Students will be expected to use appropriate technology as one tool to achieve competency in Elementary Algebra.
METHOD OF INSTRUCTION: A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:
I. Arithmetic and Algebraic Manipulation
   A. Arithmetic expressions
   B. Algebraic expressions
   C. Exponential expressions
   D. Scientific notation
   E. Polynomial expressions
   F. Factoring
   G. Rational expressions
   H. Radicals
      1. Evaluation
      2. Simplification

II. Equations and Inequalities
   A. Linear equations
   B. Proportional equations
   C. Linear inequalities
   D. Literal equations
   E. Quadratic equations
   F. Mathematical models

III. Linear Graphs on a Coordinate Plane
   A. Plotting points
   B. Table of values
   C. Intercepts
   D. Y-intercept and slope

IV. Analysis of Linear Equations and Graphs
   A. Identification of slope and intercepts given its graph
   B. Identification of slope and intercepts given its equation
   C. Equations of Lines
      1. Determination based on graph
      2. Determination based on slope and y-intercept
      3. Determination based on slope and a point on the line
   D. Equations of horizontal and vertical lines
   E. Identification of Linear Equations
   F. Slope of a Line

EXPECTED LEARNER OUTCOMES:
A. The student will be able to perform arithmetic and algebraic manipulations.
B. The student will be able to solve equations and inequalities.
C. The student will be able to graph linear equations on a coordinate plane.
D. The student will be able to analyze equations and graphs.

COURSE COMPETENCIES:
Upon successful completion of this course:

_The student will be able to perform arithmetic and algebraic manipulations._
1. The student will be able to evaluate arithmetic expressions (including absolute values) using the order of operations and properties of real numbers.
2. The student will be able to evaluate and simplify algebraic expressions.
3. The student will be able to apply the laws of exponents to simplify expressions containing integer exponents.
4. The student will be able to express numbers in scientific notation.
5. The student will be able to perform addition, subtraction, multiplication, and division on polynomial expressions.
6. The student will be able to factor expressions with common factors, expressions that require grouping, trinomial expressions, and differences of squares.
7. The student will be able to perform addition, subtraction, multiplication, and division on rational expressions.
8. The student will be able to evaluate radicals, approximating those that are irrational.
9. The student will be able to simplify numeric radicals using the product and quotient rules.

_The student will be able to solve equations and inequalities._
10. The student will be able to solve linear equations in one variable.
11. The student will be able to solve proportional equations.
12. The student will be able to solve linear inequalities in one variable showing solutions on the real number line.
13. The student will be able to solve literal equations that do not require factoring.
14. The student will be able to solve quadratic equations by factoring.
15. The student will be able to develop and solve mathematical models including number, geometry and percent applications.

_The student will be able to graph linear equations on a coordinate plane._
16. The student will be able to plot points on a coordinate plane.
17. The student will be able to graph linear equations by plotting points (table of values).
18. The student will be able to graph linear equations using intercepts.
19. The student will be able to graph linear equations using the y-intercept and slope.

_The student will be able to analyze equations and graphs._
20. The student will be able to identify the x-intercept, y-intercept, and slope of the line given its graph.
21. The student will be able to identify the x-intercept, y-intercept, and slope of the line given its equation.
22. The student will be able to determine the equation of a line given its graph, given its
slope and y-intercept, and given its slope and a point on the line.

23. The student will be able to determine equations of both horizontal and vertical lines.
24. The student will be able to determine whether or not an equation is linear.
25. The student will be able to calculate the slope of a line passing through two given points.

ASSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation.

The course grade is determined by this grading scale:
   A = 90% and above
   B = 80 - 89%
   C = 70 - 79%
   F = 69% and below
There is no grade of D in Elementary Algebra.

A comprehensive final exam will be given in all sections of Elementary Algebra. This final exam will count a minimum of 25% of each student’s course grade.

SPECIAL NOTES:
Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the Director of the Academic Resource Center, in Room 3354 or call: 913-288-7670.