Elementary Algebra Foundations
MAT K095,
MW: 3-4:15 PM, Room E221

Instructor – Kathy Hemenway

Text: **Elementary and Intermediate Algebra – 5th Edition -- Baratto - Bergman**

Course description: 3 CREDIT HOURS Elementary Algebra Foundations
This developmental course prepares students for college level courses. The course develops understanding of number systems, different representations of numbers, operations on numbers, including numbers expressed in scientific notation. The course introduces functions, their graphs, modeling relationships between quantities using functions. Topics also include solving equations and expressions with integer exponents, radicals, solving, analyzing and modeling linear equations, systems of linear equations, Pythagorean Theorem and geometrical formulas are used to solve real world problems.

Measurements: Tests – 75%
Attendance - 10%
Exam – 15%

Attendance: It is very important that you attend **ALL** classes. Your attendance in the classroom, participation in classroom work /projects and preparation for each class is required and is essential to your success in the course.

Support Services: Tutorial services. Most Important: Meet with me for an extra help.

Office Hours: By arrangement via email.
E-mail: khemenway@trcc.commnet.edu

Class Cancellation: In case of inclement weather, check the college website for class cancellations or call 860-215- 9000 for recorded message on the college phone.

Plagiarism and Academic Honesty:

At TRCC, we expect the highest standards of academic honesty. The Board of Trustees' Proscribed Conduct Policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism.

Alert System:

MyCommNet Alert is a system that sends text messages and emails to anyone signed up in the event of a campus emergency. Additionally, TRCC sends messages when the college is delayed or closed due to weather. All students are encouraged to sign up for MyCommNet Alert.

Disabilities:

If you have a disability that may affect your progress in this course, please meet with a Disability Service Provider (DSP) as soon as possible. **Please note that accommodations cannot be provided until you provide written authorization from a DSP.**

College Disabilities Service Provider	
Matt Liscum, Counselor (860) 215-9265 Room A113	▢ Learning Disabilities ▢ ADD/ADHD ▢ Autism Spectrum ▢ Mental Health Disabilities
Elizabeth Willcox, Advisor (860) 215-9289 Room A113	▢ Medical Disabilities ▢ Mobility Disabilities ▢ Sensory Disability

Course Outline and Topics:
Section   Topics

Ch.0   Review of Pre-algebra
0.1   Review of fractions
0.2   Real Numbers
0.3   Adding and subtracting real numbers
0.4   Multiplying and dividing real numbers
0.5   Exponents and Order of Operations

Ch. 1   From Arithmetic to Algebra
1.1   Algebraic Expressions
1.2   Evaluating algebraic expressions
1.3   Simplifying Algebraic Expressions
1.4   Solving equations using addition property
1.5   Solving equations using multiplication property
1.6   Combining the rules to solve equations
1.7   Linear inequalities

Ch. 2   Functions and Graphs
2.1   Formulas and problem solving
2.2   Sets and set notation,
2.3   Two-variable equations
2.4   The Cartesian coordinate system
2.5   Relations and Functions
2.6   Tables and graphs

Ch. 3   Graphing Linear Functions
3.1   Graphing linear Functions
3.2   The Slope of a line
3.3   Linear equations

Ch. 4   Systems of Linear Equations
4.1   Systems of Linear equations
4.2   Solving systems in one variable graphically
4.3   Solving systems in 2 Variables

Ch. 5   Exponents and Polynomials
5.1   Positive Integer Exponents
5.2   Integer Exponents and Scientific notation
5.3   An introduction to Polynomials
5.4   Adding and subtracting Polynomials
5.5   Multiplying Polynomials
5.6   Dividing Polynomials

Ch.7   Radicals and Exponents
7.1   Roots, radicals, Pythagorean Theorem

Final Exam

Course Objectives and Outcomes.

At the completion of MAT095, the student will be able to do the following —

Algebra
1. Use symbols and the language of algebra
2. Identify algebraic expressions
3. Use algebra to model an application
4. Evaluate an algebraic expression
5. Use linear equations to solve problems

Functions and Graphs
1. Solve applications involving geometric figures
2. Solve motion problems
3. Use two variable equations in applications
4. Plot orders pairs
5. Determine whether a relation is a function
6. Evaluate a function
7. Determine function values from a graph

Linear Functions
1. Graph a linear equation
2. Use the intercept method to graph a linear equation
3. Write the equation of a line using the slope and the y-intercept
4. Write the equation of a line through two points
5. Construct a linear function to model an application
6. Graph a linear inequality in two variables

System of Linear Equations
1. Solve systems of equations by graphing
2. Find and interpret the intersection of two lines
3. Use the addition method to solve a system of equations
4. Use the substitute method to solve a system of equations
5. Graph and solve a system of linear inequalities

Exponents and Polynomials
1. Use exponential notation
2. Simplify exponential expressions
3. Classify, determine the degree and determine the number of terms in a polynomial
4. Add and subtract polynomials
5. Determine the product of two binomials

Radicals and Exponents
1. Evaluate expressions containing radicals
2. Apply the Pythagorean theorem
3. Use the distance formula
4. Use the product and quotient property to simplify radical expressions