Tuesday & Thursday, 1:00 p.m. – 3:45 p.m., Class Instruction & Lab, Room, D-219
Professor: Susan L. Hawes
Office: C-122
Office Hours (held in D-219): Tuesday & Thursday, 9:00 – 9:30 a.m. and 12:15 – 1:00 p.m.

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Text: Elementary & Intermediate Algebra, Baratto & Bergman, Fifth Edition

ALEKS CLASS CODE: KMTCL-LAMCL
ALEKS Support: 714-619-7090 or www.aleks.com/support/contact_support

Credit: 3 credit hours (this course does not count towards graduation credit requirements)

Course Description: This Elementary Algebra developmental course prepares students for college level courses. Designed to build understanding and skills in algebra, it also provides embedded pre-algebra support. The course develops understanding of number system, different representations of numbers, operations on numbers, including numbers expressed in scientific notation. The course introduces functions, their graphs, modeling relationship 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.

Prerequisite: MAT075, appropriate placement score, or equivalent. A grade of "C" or greater is required to pass this course.

Measurements: **Homework/Pie 20%, Quizzes 20%, Chapter Tests 40%, Cumulative Final Exam 20%**
Grade equivalents: A 93 – 100, A- 90 – 93, B+ 87 -89, B 83 – 86,
B- 80 – 82, C+ 77 – 79, C 73 – 76, C- 70 – 72, D+ 67 – 69. D 63 – 66,
D- 60 – 62, F below 60, N if the student completed less than 60% of work

Support Services: Tutorial services in the TASC, my office hours, ALEKS

Class Cancellation: In case of increment weather, check the college website for class cancellations or call 860-886-0177 for recorded message.

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.

TRCC Disabilities Service Providers Counseling & Advising Office Room A-119	
Matt Liscum (860) 383-5240	• Physical Disabilities • Sensory Disabilities • Medical Disabilities • Mental Health Disabilities
Chris Scarborough (860) 892-5751	• Learning Disabilities • ADD/ADHD • Autism Spectrum

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.
Digication Requirement:
All students are required to maintain an online learning portfolio in Digication that uses the college template.

Course Requirements

Attendance: Attendance is <u>mandatory.</u> If you miss class, <u>due to emergency</u>, it is your responsibility to get the notes & assignments from that class and stay up-to-date. A classmate's phone number is a good "just in case" plan. **Being absent is not an excuse for a missed or late assignment. There are no make-up quizzes or tests, nor any extensions given.**

Class Assignments: There are no make-ups and no late assignments allowed.

ALEKS: All online assignments are found at ALEKS.com. For ALL assignments, follow these directions:
- Take a sheet of paper <u>out</u> of your 3-ring binder
  - This allows you to flip your notes back-and-forth looking for rules/steps
  - Since math builds upon itself, you may have to refer to prior sections
- Have your binder with class notes in front of you
- Label Assignment (ex. HW 1.3)
  - if I ask to see the assignment or when studying, sections are easily found
- Write the problem from the computer in pen.
- Do the work/steps in pencil
- Follow the steps from your notes.
  - **Do not turn to the computer for help unless you have *extensively tried* to follow your notes**.
  - If you consistently can't follow your notes, then you need to *personalize* them *more* during class time.
  - Write short notes to yourself, in your own words, as to how we went from step-to-step.
  - Don't assume you will remember what is said in class; it's easy to forget. Write it down.
- If you get an incorrect answer
  - Practice similar problems
  - Write a note to yourself *in a different color* as to how to do the problem correctly
  - Cross out incorrect problem so when studying you won't look at it.
- When finished, put the assignment back into your binder after the class notes of the corresponding section.
- Use different sheets for each section, if you have more than one assignment for that day.

Class Work (CW): If there is time after the lesson, class work will be assigned from the text book. Class work expectations are the same as Homework expectations; refer above. EXCEPT:
- Quality over Quantity
  - IF you don't finish the class work assignment, you do NOT have to finish it for homework.
  - HOWEVER, CW gives you good insight as to what types of problems I find "interesting" for a quiz/test.

Bring to *Every* Class:
- 3-ring binder w/loose leaf paper (not a spiral bound notebook)
- Text book for Class Work (CW)
- highlighters
- 2 pencils/pen

Suggested Organization of Binder (for each lesson):
- Class Notes
- Class work (CW) – labeled with section
- Homework (HW) – labeled with section
- Quiz - after last section it covers
- Test - after last chapter it covers

Supplementary Tools & Resources:
- ALEKS
- Attend another class of mine: 9:30 a.m. T/Th D-219
- Learning Center/TASC
  - Free tutoring!

Class Cancellation

Sign on Classroom Door

Class Withdrawal

If you find it necessary to withdraw from the class, it's important you submit the correct paperwork with the Registrar's office. If you do not file the correct paper work and stop attending class before the 60% point, you will receive an N grade, as there is no basis for grading you.

MAT095 Course Outcomes

At the completion of MAT*095 students will be able to do the following -

1. **Rational Numbers:**

a) Identify and distinguish between rational and irrational numbers
b) Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2, $\sqrt{8}$)

2. **Expressions and Equations with Polynomials, Rational and Radical**

   Expressions, and Integer Exponents:

   Interpret parts of an expression, such as terms, factors, and coefficients and evaluate expressions for a given replacement value(s)

a) Add, subtract, and multiply polynomials. Divide polynomials by a monomial
b) Construct and interpret equations as two expressions set equal to each other
c) Manipulate formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's Law $V = IR$ to highlight resistance R
d) Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = \dfrac{1}{3^3} = \dfrac{1}{27}$)
e) Use square root symbols to represent solutions to equations of the form $x^2 = p$, where p is a positive rational number
f) Evaluate square roots of perfect squares

g) Know that numbers such as $\sqrt{2}$ are irrational

h) Express very large or very small quantities in scientific notation

i) Perform operations with numbers expressed in scientific notation

a) **Linear Equations in One Variable:** Solve linear equations and inequalities in one variable

b) Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms

c) Create linear equations and inequalities in one variable and use them to solve real world applications

d) Recognize examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions

a) **Linear Equations in Two Variables:** Interpret the rate and unit rate as the slope of the graph

b) Derive the equation $y = mx + b$ for a line intercepting the vertical axis at b *and having a slope of* m

c) Identify parallel and perpendicular lines based on their slopes

d) Graph a linear equation in two variables

e) Construct a linear equation to model a linear relationship between two quantities. Determine and interpret the rate of change and initial value from a description of a relationship or from two (x, y) values, including reading these from a table or graph

f) Construct linear equations given a graph, a description of a relationship, or two input-output pairs (include reading these from a table) using point-slope form and slope-intercept form

a) **Systems of Linear Equations:** Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs

b) Solve systems of two linear equations in two variables algebraically (using both substitution and addition methods), graphically (by hand and/or technology), Solve simple cases by inspection. *For example,* $3x + 2y = 5$ *and* $3x + 2y = 6$ *have no solution because* $3x + 2y$ *cannot simultaneously be* 5 *and* 6

c) Recognize systems of linear equations with one solution, infinitely many solutions, or no solutions

d) Solve real-world problems leading to two linear equations in two variables

a) **Functions:** Understand that a function is a rule that assigns to each input exactly one output and that the graph of a function is the set of ordered pairs consisting of an input and the corresponding output

b) Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line

c) Use functions to model linear relationships between quantities

d) Use function notation. Evaluate functions for inputs in their domains

e) Graph linear functions and show intercepts

f) Recognize that linear functions have a constant rate of change and interpret the rate of change in the context of the problem

a) **Applications:** Apply geometrical formulas for two and three-dimensional figures such as rectangles, circles, rectangular solids, cylinders, spheres, etc.

b) Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two dimensions

Mathematical Practices

1) Make sense of problems and persevere in solving them.

2) Reason abstractly and quantitatively.

3) Construct viable arguments and critique the reasoning of others.

4) Model with mathematics.

5) Use appropriate tools strategically.

6) Attend to precision.

7) Look for and make use of structure.

8) Look for and express regularity in repeated reasoning