Syllabus

Three Rivers Community College
MAT 095I – Elementary Algebra
Spring 2014
Course Registration Number (CRN) – 12858
T, Th 9:30 – 12:15, Room D-219

Instructor:

Roxanne N. Tisch
Office: C-248
Office Hours: To be announced
Email: rtisch@trcc.commnet.edu

In Class Tutor (also called EA short for Educational Assistant):

Todd Shirley

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 prealgebra 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, and modeling relationships between quantities using functions. Topics also include solving equations and manipulating expressions with integer exponents, radicals, solving, analyzing and modeling linear equations, systems of linear equations. Pythagorean Theorem and geometric formulas are used to solve real world problems.

Required Materials:

- The text is Beginning Algebra by Hendricks and Chow. You may choose to either use an electronic version of the text of a print copy of the text.
- Access Kit for ALEKS software
- Notebook with at least 3 sections or binder
- Pencils
- Calculator
- Headphones

Attendance:

Attendance in classes is strongly recommended. *I will teach a class only once;* you are responsible for getting the class notes, homework, and any other assignments from another student and completing that work by the next class after any missed class. Short unannounced quizzes may be given and they cannot be made up. Written homework that is due on a day you do not attend class cannot be turned in late.

Attendance at exams is mandatory. You will be informed of the dates of tests at least one week in advance. Make-up exams may be given *with my prior consent*. If you must miss an exam, please speak with me before the date of the exam so that arrangements can be made.

Grading Policy:

Your grade will be based on scores in three categories: tests and exams, ALEKS work, and classwork.

Tests and Exams (50% of final grade)
Throughout the semester there will be four 100-point exams and a final exam (100 points). The test schedule will be given to you during the second week of class.

ALEKS Work (25% of final grade)
You are responsible for completing computerized assignments in ALEKS. All outcomes for the semester are represented in the "ALEKS Pie". You will receive a grade based on the percentage of the pie completed.

Classwork (25% of final grade)
Attendance and participation in classwork is required to be successful in this class. Each class you will earn points by showing up on time and being ready at the beginning of class, participating in all aspects of the class, and working for the entire class time.

In order to receive a passing grade in the class, you must have at least a 65% average in each category. Assuming you do have a 65% average in each category, your final grade will be determined using a weighted average of the grades in each category. Letter grade equivalents are listed below:

Grade	Weighted Average of Categories
A#	93-100
A-#	90-92
B+#	87-89
B#	83-86
B-#	80-82
C+#	77-79
C#	73-76
C-#	70-72
D#	65-69
F#	Below 65

The prerequisite for moving on to the next course is a C or better in this course.

Homework:

Most homework will be completed using ALEKS. I will be checking regularly to make sure you are keeping up with the homework. It is in your best interest to do as many practice problems as possible, if not more. The more you do any math, the easier it becomes.

**Note: Deadlines for online homework will not go beyond the test date for the test that covers that material. All online assignments MUST be completed prior to taking the test on that material. Watch your ALEKS due dates and times carefully.

The expectation is that you are spending 2 hours of reading and doing homework for this class for every "academic" hour we meet in class. We meet six "academic" hours per week, therefore you should expect to spend ***at least* 9-12 hours per week** on this class, outside of class meetings, every week!

Extra Credit:

There will be no extra credit assignments.

Contact:

All communication will occur by email. Please make sure that your email address in MyCommNet is accurate. Check your email regularly to be informed of any changes in schedule.

Class Cancellation:

If class is cancelled by the school, pay attention to radio and TV announcements, call the college's main phone number 860-886-0177, or visit the college's home web page www.trcc.commnet.edu.

If class is cancelled by the instructor, a notice will be placed on the classroom door. If time permits, students may be notified by a message via email.

Resources:

1. Visit me during office hours or schedule an appointment with me if you have any questions.
2. Talk to the EA, Todd, if you have questions.
3. One of your greatest resources is each other. I encourage you to get to know your classmates and **exchange contact information**.
4. TASC (the combined Tutoring Center and Writing Center) is located in room C-117. TASC provides free **one-to-one or group tutoring** in math as well as in many other subject areas. TASC also has **textbooks** (both old and current), **videotapes**, and many **handouts** available for student use.

Class Conduct:

In addition to the rules and policies previously stated in this syllabus, students are asked to:

- Be respectful of each person,
- Do not use cell phones, beepers, or similar devices during class. Please silence these devices. If you have a situation where you absolutely must be able to take a call, please notify me before class. Texting during class will negatively affect your grade.
- From the TRCC Student Handbook: "*The College has the right and responsibility to take appropriate action when a student's conduct directly and significantly interferes with the College's educational mission and the rights of others to pursue their educational objectives in an environment conducive to learning.*"
  Such action will, at minimum, be the dismissal of the student from the remainder of class that day.

Disabilities Statement:

Students with disabilities are guaranteed reasonable accommodation under the provisions of the Americans with Disabilities Act of 1992. Disclosure of a disability must be voluntary. Valid and reliable documentation to verify eligibility for accommodation is required and must be submitted to the Student Development Offices of Student Services. If you have accommodations documented through the Student Services office, please see me as soon as possible so arrangements can be made. If you would like more information or want to schedule a confidential meeting, please contact the Learning Specialist, Chris Scarborough, at 860-892-5751.

College Withdrawal Policy:

You may withdraw from this class any time up to and including May 12 and you will receive a W grade on your transcript. However, you must complete a withdrawal form in the Registrar's Office at the time of withdrawal; *if you merely stop attending classes you will be assigned a grade of F or N* depending on the date you stop attending. Any eligibility for refund of tuition is based on the date that the registrar receives the withdrawal.

Academic Integrity:

Academic integrity is essential to a useful education. Failure to act with academic integrity severely limits a person's ability to succeed in the classroom and beyond. Furthermore, academic dishonesty erodes the legitimacy of every degree awarded by the College. In this class and in the course of your academic career, present only your own best work; clearly document the sources of the material you use from others; and act at all times with honor. A full copy of the college's academic integrity policy is in the school's catalog and in the student handbook.

Online Portfolio:

As a student you will maintain an online learning portfolio using a college-designed template in Digication. Through this electronic tool you will have the opportunity to monitor your own growth in college-wide learning. It may even help you determine a major that is best suited to you. You will be able to keep and maintain your learning portfolio after graduation. A Three Rivers General Education Assessment Team will select and review random works to improve the college experience for all. If your work is selected and reviewed for assessment purposes, it will remain anonymous and private. Digication provides a "place" where you will connect your learning from the classroom, college, and life in general. Sometimes when you review all of the work you have done and think about it, you end up learning something different and perhaps unexpected. Please review your course outlines to determine what assignments to upload into the TRCC Digication template and please post your own choices, as well.

COURSE OUTCOMES

1. **Rational Numbers – At the end of this course, a student should be able to**
   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 – At the end of this course, a student should be able to**
   a) Interpret parts of an expression, such as terms, factors, and coefficients and evaluate expressions for a given replacement value(s)
   b) Add, subtract, and multiply polynomials. Divide polynomials by a monomial
   c) Construct and interpret equations as two expressions set equal to each other
   d) 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
   e) Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = \frac{1}{3^3} = \frac{1}{27}$)
   f) Use square root symbols to represent solutions to equations of the form $x^2 = p$, where p is a positive rational number
   g) Evaluate square roots of perfect squares
   h) Know that numbers such as $\sqrt{2}$ are irrational
   i) Express very large or very small quantities in scientific notation
   j) Perform operations with numbers expressed in scientific notation

3. **Linear Equations in One Variable – At the end of this course, a student should be able to**
   a) 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

4. **Linear Equations in Two Variables – At the end of this course, a student should be able to**
   a) 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

5. Systems of Linear Equations – At the end of this course, a student should be able to

a) 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

6. Functions – At the end of this course, a student should be able to

a) 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

7. Applications – At the end of this course, a student should be able to

a) 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