Syllabus
Three Rivers Community College
MAT 095 – Elementary Algebra
Spring 2015
M-W-F: 10-10:50am, Room D206

Instructor:
Christopher Lee Williams!
Office: N/A
Office Hours: Appointment only
Email: cwilliams@trcc.commnet.edu

Course Description:
This course extends the basic algebra skills acquired in MAT* K075. The topics include signed numbers, solving first-degree equations, exponents, polynomials, and factoring, graphing, systems of linear equations, inequalities, radicals, and scientific notation. This course does not count towards the minimum requirements for graduation.

Prerequisites:
Prerequisite: Acceptable placement score or a "C#" grade or better in MAT* K075 or completion of the first four modules in MAT 090. If you plan to take MAT 137, you need a grade of "B-" or better in this course.

Required Materials:
♦   The text is Elementary and Intermediate Algebra, Graphs, 5th Ed., Baratto & Bergman, McGraw Hill Education, 2011.
♦   Notebook or binder

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. You are responsible for completing that work by the next class after any missed class. Also, short unannounced quizzes may be given and they cannot be made up.

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.

Homework:

Most homework will be completed using the text. Homework will be assigned each class. I will be checking regularly to make sure you are keeping up with the homework. It is in your best interest to do <u>at least</u> the assigned problems, if not more. The more you do any math, the easier it becomes.

Grading Policy:

Throughout the semester there will be quizzes (75%) and a final exam (15% of grade). Another possible 10% will distributed among homework, projects, quizzes, other assignments, and class participation. The final grade will be determined by adding the total points earned and dividing by 6. Letter grade equivalents are listed below:

Grade	Percent of Points Earned
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#	60-69
F#	Below 60

The prerequisite for moving on to MAT 137 (Intermediate Algebra) is a B- or better in this course.

Extra Credit:

There will be no extra credit assignment, but there are bonus questions on most exams.

Contact:

All communication will occur by announcements in email. Please make sure that your email addresses are accurate. Check your email regularly to be informed of any changes in schedule.

College Withdrawal Policy:

You may withdraw from this class any time up to and including December 10 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 N*. Any eligibility for refund of tuition is based on the date that the registrar receives the withdrawal.

Disabilities Statement:

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

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.

Resources:

1. If you have any questions and/or need extra help, make an appointment with me.
2. Feel free to email me to ask specific homework 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.
- 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.

Cell Phone Use:
Please turn off the ringer on all cell phones/pagers before the start of each class. 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.

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.

COURSE OUTCOMES:
1. Evaluate algebraic expressions
2. Determining if a given number is a solution to an equation or an inequality
3. Determining if an ordered pair is a solution to a linear equation in 2 variables

4. Add, subtract, multiply, and divide real numbers and raise a real number to an integer power
5. Add, subtract, multiply, and divide Polynomials
6. Simplify, add, subtract, multiply, and divide Radicals
7. Rules for Exponents
8. Greatest Common Factor (factoring)
9. Factor by Grouping
10. Factor trinomials of the form $x^2 + bx + c$
11. Factor trinomials of the form $ax^2 + bx + c$
12. Factor Perfect Square Trinomials
13. Factor the Difference of Two Squares
14. Factor Completely
15. Converting between Scientific Notation and standard notation

16. Order of Operations (manipulation)
17. Properties of Real Numbers (manipulation)
18. Simplifying Algebraic Expressions (manipulation)

19. Graphing in a Rectangular Coordinate System
20. Graphing Linear Equations by plotting points, using intercepts, and using the Slope-Intercept form
21. Graphing the solution to a Linear Inequality in one variable.
22. Graphing a System of Linear Equations in two variables
23. Rates of change (slopes)
24. Identifying Linear Equations (Linearity)
25. Solving Linear Inequalities in one variable
26. Finding the Equation of a Line (manipulation)
27. Solving Linear Equations in one variable
28. Solving formulas for a specified variable
29. Solving a System of Linear Equations in two variables (two methods)
30. Solving equations with degree 2 or greater by factoring
31. Two forms for the equation of a line (transforming back and forth)

32. Finding an unknown number word problem

33. Solving consecutive numbers (including odd and even) word problems
34. Solving dimension problems using geometric formulas
35. Solving Percent and Mixture problems
36. Solving table problems such as rate, time, and distance
37. Solving linear inequality problems
38. Solving linear equation in two variables problems
39. Solving System of 2 linear equations in 2 variables word problems
40. Solving factorable Quadratic Equation word problems

095/ 095 I Course Syllabus   Elementary and Intermediate Algebra by Baratto, Bergman 5th ed

Section   Topics   HW   (odd numbered problems; it's a guide only)

Ch.0   Review of Prealgebra
            (primarily for 095 I classes)
0.1   Review of fractions   p. 10   1 - 91
0.2   Real Numbers   p. 19   1 - 69
0.3   Adding and subtracting real numbers   p. 28   1 - 73
0.4   Multiplying and dividing real numbers p. 39   1 - 77
0.5   Exponents and Order of Operations   p. 48   1 - 75

Ch. 1
1.1   Algebraic Expressions   p. 63   1, 5, 7, 19, 21, 25, 27
1.2   Evaluating algebraic expressions   p. 75   1-21
1.3   Simplifying Algebraic Expressions   p. 87   27-67, 81-89
1.4   Solving equations using addition property   p. 102 41-61, 71 -77
1.5   Solving equations using multiplication property p. 113 13-39, 59-63
1.6   Combining the rules to solve equations p. 126   11-59, 73,75,85,87
1.7   Linear inequalities   p. 141   25-33,38-55

Ch. 2
2.1   Formulas and problem solving   p. 161   1-21, 31-35
2.2   Sets and set notation   p. 175   15-27,35-43,
2.3   Two-variable equations   p.186   1,7,15,17
2.4   The Cartesian coordinate system   p. 198   1-21,35,39, 51
2.5   Relations and Functions   p. 212   17-21, 33, 3741-47
2.6   Tables and graphs   p. 226   7-21, 45-49

Ch. 3
3.1   Graphing linear Functions   p. 256   1,3,7, 11, 21, 23
3.2   The Slope of a line   p.279   7-15, 19-41, 47-51, 55, 59,
3.3   Linear equations   p. 294   1,3,5,11-21, 23-31, 33-43

Ch. 4
4.1   Systems of Linear equations   p. 347   5 - 23, 25-31, 33-38
4.2   Solving systems in one variable graphically   p. 358 1-9

Course Outline:
You will be responsible for the following sections of the text:

Chapter 1. Introduction to Algebraic Expressions
1.1 Introduction to Algebra
1.2 The Commutative, Associative, and Distributive Laws
1.3 Fraction Notation
1.4 Positive and Negative Real Numbers
1.5 Addition of Real Numbers
1.6 Subtraction of Real Numbers
1.7 Multiplication and Division of Real Numbers
1.8 Exponential Notation and Order of Operations

Chapter 2. Equations, Inequalities, and Problem Solving
2.1 Solving Equations
2.2 Using the Principles Together
2.3 Formulas
2.4 Applications with Percents
2.5 Problem Solving
2.6 Solving Inequalities
2.7 Solving Applications with Inequalities

TEST 1

Chapter 3. Introduction to Graphing and Functions
3.1 Reading Graphs, Plotting Points, and Scaling Graphs
3.2 Graphing Equations
3.3 Linear Equations and Intercepts
3.4 Rates
3.5 Slope
3.6 Slope-Intercept Form
3.7 Point-Slope Form
3.8 Functions

Chapter 4. Systems of Equations in Two Variables
4.1 Systems of Equations and Graphing
4.2 Systems of Equations and Substitution
4.3 Systems of Equations and Elimination
4.4 More Applications Using Systems

TEST 2 (Sections 3.1 – 3.6, 4.1, 4.2)

QUIZ (Sections 3.7, 3.8, 4.3, 4.4)

Chapter 5. Polynomials
5.1 Exponents and Their Properties
5.2 Negative Exponents and Scientific Notation
5.3 Polynomials and Polynomial Functions

5.4 Addition and Subtraction of Polynomials
5.5 Multiplication of Polynomials
5.6 Special Products
5.7 Polynomials in Several Variables
5.8 Division of Polynomials
5.9 The Algebra of Functions

Chapter 6. Polynomial Factorizations and Equations
6.1 Introduction to Polynomial Factorizations and Equations
6.2 Trinomials of the Type $x^2 + bx + c$
6.3 Trinomials of the Type $ax^2 + bx + c$
6.4 Perfect Square Trinomials and Difference of Squares

TEST 3

FINAL EXAM

FOR DIGICATION:

Please designate one of your assignments as a General Education artifact and submit the Blue Form online at www.threerivers.edu/blueform.