Three Rivers
COMMUNITY COLLEGE

Syllabus (Fall 2019)

MAT095 CRN 30350–Elementary Algebra College Readiness
8/25/19 – 12/15/19, Online

Course Information

- **Instructor Information**

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Office Hours: virtual office hours Wednesdays 7:30-9PM to log into the virtual office hours go to junes personal room:
https://ctedu.webex.com/join/jdeckertrcc.commnet.edu
OR by appointment – contact me by email, please

- **Course Description**

Prerequisite: ENG* K096 placement
This course develops understanding of number systems, different representations of numbers, and 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; simplifying expressions with integer exponents; using square roots; solving, analyzing, and modeling linear equations; and using systems of linear equations, Pythagorean Theorem, and geometric formulas to solve real world problems. This course does not satisfy a math requirement or an elective in any degree program, nor do its credits count toward graduation. Please refer to online schedule and click on the CRN hyperlink and/or review the printed schedule to determine which faculty require math software in their section.

- **Required Materials**

Text : *Elementary and Intermediate Algebra, 5th ed.* by Baratto & Bergman.
This course is taught in conjunction with ALEKS (Assessment & Learning Knowledge Spaces), a Web-based learning system.The purchase of an ALEKS 360 Access Code includes an electronic version of the text, therefore a hard copy is NOT necessary. **The first thing you should do is to register for ALEKS** on the internet, follow the directions and take the Knowledge Check.

Go to ALEKS.com now and register using
Class Code for ALEKS Registration: **HDDTK - MECCM**
Free 2 week trial Access Code : **B2A5C-63FE0-80DCC-A00BC**

Once you purchase ALEKS 360, you will be allowed to purchase the hardcopy of the Baratto Text from ALEKS for only $50. So do not purchase a hard copy till you get ALEKS.

Calculator: I strongly suggest you start learning to use a graphing calculator now. You may use the free graphing calculator App/download for computers and cell phones called DESMOS. Just search for desmos graphing calculator

- **Learning Outcomes**
  Upon successful completion of this class a student should be able to:

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 geometric 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

Grading

- **Methods of Evaluation**

Student Evaluative Criteria

- "homework" on ALEKS 48%. ALEKS is an online software program. The grade you receive in ALEKS will constitute 48% of your grade
- 3 take-home problem sets total 18% of your grade. Each of the 3 will count 6% of your grade. For a total of 18%. I will post these on Blackboard, you will have to work out by hand, and then send back to me for me to grade. Late papers will not be accepted.
- Proctored Mid Term Exam will count 10% of your grade. The midterm may be taken in person at TRCC on Thursday October 3 from 6:15- 8:15 PM OR from your own home with me watching you on computer or cell phone video conferencing on Friday October 4 from 7-9 PM . The video conferencing software is free and it is called WebEx.
- 4 Discussion postings on Blackboard will count 4% total or 1% each
- Proctored Final exam is 20% of your grade. It must be taken by Dec 14 at noon. The exam will be given in person on Thurs Dec 12 from 3:30-6:15 PM n room D 219 at Three Rivers. IF you cannot come in person to Three Rivers, you can be proctored at any other Connecticut Community College at a time to be decided, or by me watching you take the exam on computer/cell phone video camera - proctored virtually - on Saturday Dec 14 from 9 till noon. Please make arrangements now to be available to take the midterm and the final exam in person or online from your home using a video conferencing program. If none of these options work for you, we can try to find an alternative, but you must notify me as soon as you can when you are able to take the final exam. We will use the free video conferencing software called WebEx.

- **Grading Policies**
- **Late Work**: Flex time is built into each due date. You might want to work ahead so that you can have a cushion if you become very busy and can not do math for a short while. The average person will spend 10 hours per week on this course. If your knowledge check from ALEKS shows you have many knowledge gaps, then you will have to spend more time on this course.

- **Missed Work Make-Up Policy:** No late or make up work except for the Mid term exam is necessary. You can rework assignments till they are correct, ask me for help, and you will have at least a week to complete each assignment. Do the work early, so that you will not be caught off guard and unable to finish when the assignment is due. The MidTerm exam may be done over (higher grade prevails) during the week of Dec 9-13 if you missed the exam or if you desire to improve your grade. The final exam is to be taken in one or two sittings. You will not have a retake on the final exam.

    - **Extra Credit:** No extra credit

- **Letter Grade Equivalents**

Grade	Percent of Points Earned
A	92-99
A-	90-91
B+	88-89
B	82-87
B-	80-81
C+	78-79
C	72-77
C-	70-71
D	60-69
F	50-59

Classroom Policies

- **Attendance:** there is no required in person attendance.

- **Communication:** All communication will occur by email, and on announcements on Blackboard. Please make sure that you check your TRCC email or set it up to forward to another account. Check your email regularly to be informed of any changes in schedule, posted assignments and discussions, etc.

- **Class Cancellation:**
  If school is cancelled, or if I have to cancel office hours or an appointment with you, notification of cancellation due to inclement weather will be available by telephone by 6:00 am for daytime classes and by 2:30 pm for evening classes by

calling the College's main telephone at (860) 215-9000, pressing 1, and listening to the taped announcement. The College's website will also have announcements available by accessing the www.threerivers.edu home page. The myCommnet Alert Notification System will also be used to deliver important information regarding weather-related class cancellations, via both email messages and text messages, to registered individuals. To register, log on to your myCommnet account at http://my.commnet.edu/ and follow the link to myCommnet Alert.

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- **Withdrawal Policy:** You may withdraw from this class any time up to and including November 5 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*. Any eligibility for refund of tuition is based on the date that the registrar receives the withdrawal.

- **Academic Integrity:** The effective operation of any organization is dependent on the honesty and goodwill of its members. In an organization devoted to the pursuit of knowledge, acting with integrity is essential to effective teaching and learning. Furthermore, academic dishonesty erodes the legitimacy of every degree awarded by the College. To emphasize the importance of academic integrity, Three Rivers Community College adheres to the Student Code of Conduct and Discipline Policy, as provided by the Connecticut State Colleges and Universities (CSCU) - Board of Regents for Higher Education. (Please refer to BlackBoard for the complete statement.)

  Some of the behaviors that will be considered cheating are:
  - Communicating with another student during a quiz or exam
  - Copying material from another student during a quiz or exam or from any assignment being graded
  - Allowing another student to copy from your quiz, exam, or any assignment being graded
  - Use of unauthorized assistance on any assignment being graded
  - Use of unauthorized notes or books during a quiz or exam
  - Providing or receiving a copy of a quiz or exam used in the course
  - Use of a cell phone or pager to transmit information during a quiz or exam

Tentative Schedule

To be determined soon:

Dates	Content	Assignments

School Policies

Please refer to BlackBoard for a link to the entire policy.

- **Digication:** All students are required to maintain an electronic portfolio using the College template within Digication. Digication can be accessed at https://threerivers.digication.com.

- **Disability:** Three Rivers Community College (TRCC) is committed to the goal of achieving equal educational opportunity and full participation for individuals with disabilities. To this end, TRCC seeks to ensure that no qualified person is excluded from participation in, is denied the benefit of, or otherwise is subjected to discrimination in any of its programs, services, or activities.

- **Non-discrimination:** Three Rivers Community College does not discriminate on the basis of race, color, religious creed, age, sex, national origin, marital status, ancestry, present or past history of mental disorder, learning disability or physical disability, sexual orientation, gender identity and expression, or genetic information in its programs and activities.

- **Sexual Misconduct:** The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to insuring that each member of every BOR governed college and university community has the opportunity to participate fully in the process of education free from acts of sexual misconduct, intimate partner violence and stalking.