MAT* K172   College Algebra   Fall 2018

T3   MW   4:30 – 5:45 pm   **D 105**

INSTRUCTOR: Dr. Kelly Molkenthin (pronounced "molk-in-tine")
Office: C 234, 860-215-9455
Email: kmolkenthin@trcc.commnet.edu

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Office Hours: Mondays 3:15 – 4:15 pm
                     Tuesdays 3:30 – 4:30 pm
                     Wednesdays 9:15 – 10:15 am
                     Thursdays 12:45 – 1:45 pm
       and by appointment.
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REQUIRED MATERIAL:

- *Precalculus, 1st Edition.* Coburn & Herdlick. McGraw Hill 2012. ISBN #9780073519531
  You can purchase just a hardcover or paperback book, a hardcover or paperback book with the ALEKS 360 access code or just the electronic access kit for ALEKS 360 (which includes ebook). You are *not* required to purchase the access code for ***ALEKS 360***.

- Graphing calculators will be needed for many homework problems and it is required that you bring one to **every class**. Cell phones may **not** be used as calculators on quizzes or exams.

COMPUTERS: In this course, students will have access to the online program **ALEKS 360.** This program can be used on any computer or tablet with internet access. In order to access the material for this course in ALEKS, an access code for **ALEKS 360** is required. If you did not purchase a book that has an access code bundled with it, you can purchase an access code separately. One may be purchased at the TRCC bookstore or online at www.aleks.com.

What is ALEKS?

Assessment and **LE**arning in **K**nowledge **S**paces is a Web-based, artificially intelligent assessment and learning system. ALEKS uses adaptive questioning to quickly and accurately determine exactly what a student knows and doesn't know in a course. ALEKS then instructs the student on the topics they are most ready to learn. As a student works through a course, ALEKS periodically reassesses the student to ensure that topics learned are also retained. ALEKS courses are very complete in their topic coverage. A student who shows a high level of mastery of an ALEKS course will be successful in the actual course they are taking.

Course Code: WXAL3-NTGUX

GRADING:

3 Exams:	300 points (100 each)
Weekly Quizzes:	200 points (20 each)
Final Exam	200 points
Attendance/Participation/Class Work	50 points
Total:	750 points

Your final grade is the total number of points you have received divided by the total possible number of points. Final grades will be determined using the scale below:

A → 93% and above   **A-** → 90 - 92%

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%

EXTRA CREDIT: There will be **no** "extra credit" assignments for this course.

HOMEWORK AND QUIZZES: Homework will be assigned on a daily basis. The expectation is that you are spending 2-3 hours of reading and doing homework for this class for every one hour we meet in class. So, you should expect to spend *at least* **6-9 hours per week** for this class, every week! Please have a separate binder for your homework, and bring your homework binder to every class. Also, BE SURE TO CHECK YOUR ANSWERS IN THE BACK OF THE TEXT. If you check the problem in the back of the text and it is not correct, re-do the problem. If you are struggling with the assignment, you need to seek out help from either your instructor or the tutor center ASAP!
Your in-class quizzes will be testing the concepts emphasized from class the previous week and your current homework assignments. There are no make-ups for missed quizzes. You will be given at least 12 quizzes throughout the semester, only your top 10 scores will count toward your final grade.

*NOTE: Class time is reserved for presentation of material. Homework questions will be answered before or after class, or during meetings outside of class time.

EXAMS: You will have three sectional exams and one final exam. Exams are (tentatively) scheduled for the following dates:
- ♦ **Exam 1**: Wednesday, 10/03/18 (100 points)
- ♦ **Exam 2:** Wednesday, 11/07/18 (100 points)
- ♦ **Exam 3:** Wednesday, 12/05/18 (100 points)
- ♦ **Final Exam:** Wednesday, 12/12/18 (200 points)

This <u>may</u> change (but hopefully not), depending on how we are doing. Make-ups for exams will be given only in **EXTREME** circumstances (to be determined by instructor: "vacations" or dentist/doctor appointments are NOT valid reasons to miss an exam, for example) AND if arrangements are made **PRIOR** to the missed exam. Any make-up must be completed within 48 hours of the missed exam. No exam will be administered prior to the date/time of the scheduled exam. **No calls/no shows will receive a grade of 0 (zero)** on any exam. Your final exam is a cumulative **2+ hour** final exam.

RETENTION OF PAPERS: Students are expected to retain all graded work until final grades are received.

ATTENDANCE & PARTICIPATION: All students start the semester will 50 "bonus" Attendance/Participation points. Points will be deducted for unexcused absences, late arrivals, early departures, cell phone, tablet or computer use during class time and other distracting classroom behavior (determined by instructor). Attendance is required and will be taken for each class.   An absence is excused ONLY for valid reasons (to be determined by the instructor) and if notification is given **PRIOR** to a missed class (via email, phone message – **not** word of mouth from another student). Oversleeping, "colds" and "vacations" are examples that are **not** valid reasons for an absence.
**<u>All absences reported by phone or reported to instructor in person **must be followed up with an email, or they will be considered unexcused</u>. Do you best to not miss ANY classes!! Students are allowed a maximum of 2 excused absences per semester, excused absences will not affect your attendance and participation grade. Unexcused absences *will* lower your attendance and participation grade.

Also, if you miss a class it is **YOUR responsibility to get the class notes from another student (refer to your class list) and **BE PREPARED** for the next class meeting (this includes taking scheduled quizzes and exams).*** Your instructor will not provide you with class notes or "re-lecture" missed material.

Note: Class BEGINS at 4:30 pm.   It is expected that you will be in your seat and ready to go at 4:30 pm. Students arriving after 4:30 pm will lose attendance points for that class. Excessive "lateness" will not be tolerated, it is disruptive to both the instructor and the class. For safety, classroom doors will be locked shortly after 4:30 pm. Emergencies and special circumstances can typically be accommodated – especially when discussed with the teacher in advance. However, regular late arrivals and early departures are unwanted interruptions that affect the classroom as a whole.

COMMUNICATION: Verbal communication with the instructor regarding missed classes, test make-ups, special accommodations, etc. **must** be followed up with an email (kmolkenthin@trcc.commnet.edu) as soon as possible. This is essential!

COURSE OBJECTIVES: This course is a thorough and rigorous algebra course that strengthens the proficiency with algebraic skills and the conceptual understanding needed to be successful in the Calculus sequence. The topics include: sets, polynomial, exponential, logarithmic and rational functions, rational exponents, conic sections, right triangle trigonometry, matrices, polynomial, exponential, logarithmic and radical equations, linear and quadratic inequalities, absolute value equations and inequalities, linear systems.

Upon Completion of the course, the student should be able to:

1) Define absolute value, find distances on the number line and the coordinate plane.

2) Simplify expressions with rational exponents, write them in radical form, simplify, combine and rationalize radical expressions.

3) Solver linear and quadratic inequalities, absolute value equations and inequalities, express answers in interval form.

4) Perform operations on complex numbers, conjugates, represent complex numbers graphically.

5) Perform operations on radical expressions, rational exponents, solve radical equations.

6) Find the domain and range of function's, combine functions, identify even and odd functions, graph piece-wise functions, find composition of functions, inverse and transforms of functions.

7) Find the characteristics of polynomial functions, solve polynomial equations, find zeros (roots) and x-intercepts of polynomials, apply the Fundamental Theorem of Algebra, The Remainder Theorem, The Factor Theorem, analyze end behavior.

8) Graph rational functions, find vertical, horizontal and slant asymptotes.

9) Graph exponential and logarithmic functions, use properties of exponents and logarithms, solve exponential and logarithmic equations.

10) Solve systems of linear equations in several variables

CLASSROOM ETIQUETTE: Good manners and classroom etiquette should be common sense for most students. Occasionally there are students who seem unaware or oblivious to proper classroom etiquette. What is etiquette? It's a code of conduct, a method for dealing with how people interact with each other – based on respect and accepted norms of behavior.

1. Arrive to Class on Time.
   Regularly arriving late to class signals a level of disrespect -- whether you mean to send that signal or not. If you have problems getting to class on time, find a way to solve them. And on those rare days when you do arrive late, remember to enter the room quietly.

2. Turn Off Your Cell Phone.
   Unless you are expecting an important call or text (for which you will notify the instructor ahead of time), the proper thing to do is turn your cell phone completely off, or at least the volume off, as soon as you enter class and properly place it completely inside a pocket or bag.

3. Do Not Bring Food or Drink to Class
   Do not eat or drink in class, **unless you are willing and able to clean up after yourself**. In many classrooms food is not allowed, so be sure to check for signage.

4. Avoid Side Conversations.
   It is rude for students have a "private" conversation loudly enough that it's distracting to the instructor or other students in the classroom. If you have big news to share with your friends, do so before or after class -- but refrain from doing so during class. Besides being more respectful to the students and professor, you'll actually learn more information by being actively involved in the class rather than in your own side conversation.

5. Be Attentive in Class.
   If you are going to make the effort to arrive on time and be in class, you should also make the effort to stay actively engaged in class. Avoid reading magazines, textbooks or completing any homework during class time. Flaunting your boredom or disinterest in the class is rude. Finally, please avoid falling asleep in class.

6. Stay for the Entire Class.
   There may be times when you need to leave class early, but do not make a habit of doing so. If you do need to leave class early, you must alert the professor ahead of time and then discretely leave the classroom so as not to disturb the other students. If you do need to leave early, pick a seat close to the door to make a quick and quiet exit.

7. Avoid Signaling, Sending Signs That Class Time is Up.
   Occasionally students attempt to signal that class is over by shutting their books loudly, unzipping and zipping their backpacks, and otherwise making noises indicating that class time is complete. Some students actually get up and walk out of class. I assure you I know how to tell time. If your professor does seem to have a problem with ending class on time, chat with him or her outside of class.

8. Contact the Professor When You Have to Miss Class.
   When you have to miss class for legitimate reasons or when you miss class because of illness, contact the professor before the class meeting and inform him/her of your absence. You then need to obtain copies of lecture notes for *another student.*   Do not, however, ask the professor in class to go over or re-lecture material you missed (for whatever reasons). And when alerting the professor a missed a class, do not ask the awful question, "are we doing (or did we do) anything important in the class I am missing/missed?"

ACADEMIC DISHONESTY: Academic integrity is essential in all aspects of college coursework and learning. I have zero tolerance for academic dishonesty. It is expected that **YOU** complete all your assigned ALEKS work. Communication or collaboration of ANY sort is ABSOLUTEY PROHIBITED during any exam.   Academic Misconduct is punishable in a number of ways, including a score of a zero on the assignment where the cheating took place, a grade of an F in the course and/or possible censure on your permanent record. All cases of academic dishonesty will be referred to the Academic Dean. Do not let yourself come under the suspicion of academic dishonesty.

CELL PHONE POLICY: All cell phones must be turned OFF or MUTED before entering the classroom and properly placed in a bag or pocket (not left on a desk). Any cell phone use is inappropriate and will not be tolerated. Students found using cell phones in any way in class will lose their attendance points for that class period. Cell phones may NOT be used for calculators in class. All cell phones must be completely out of sight, especially for all exams. Any visible cell phone during an exam will result in a 0 for that exam.

CLASS CANCELATION: In the unlikely event that a class needs to be canceled by the instructor, a notice will be placed on the classroom door prior to the start of class. If time permits, you will be notified by the instructor via email as soon as possible prior to the canceled class.
For college cancelations, pay attention to the radio & TV announcements, call the college's main phone number, 860-215-9000, or visit the college's home page, www.trcc.commnet.edu. Please: DO NOT email or call your instructor regarding school closings!

It is also suggested all students register for **The MyCommnet Alert Notification System.** This system is used to deliver important information to students, faculty, and staff regarding weather-related class cancellations. The system delivers both email messages, and text messages over cellular phones to those individuals who are registered. To register, log on to your MyCommnet account at http://my.commnet.edu/ and follow the link to MyCommnet Alert.

ACCOMMODATIONS: Students with learning disabilities should contact the Learning Specialist, Matt Liscum, at 860-215-9265 or via email at mliscum@trcc.commnet.edu as soon as possible to ensure timely accommodations. Students with physical disabilities should contact Elizabeth Willcox at 860-215-9289 or via email at ewillcox@trcc.commnet.edu to facilitate accommodations. All testing accommodations MUST be discussed with the instructor in a timely manner, that is, *at least* one to two class meetings **prior** to any scheduled test for which accommodations are needed.

DIGICATION: All students are required to maintain a learning portfolio in Digication that uses the (Three Rivers) College Template.

STUDENT EMAILS: Students are required to have a valid email. If it is necessary for me to email the entire class, I will use COMMNET to do this quickly and efficiently. If you do not regularly use your TRCC email, please be sure your TRCC email is properly forwarded to the email you regularly check.

BOARD OF REGENTS FOR HIGHTER EDUCATION AND CONNECTICUT STATE COLLEGES AND UNIVERSITIES POLICY REGARDING SEXUAL MISCONDUCT REPORTING, SUPPORT SERVICES AND PROCESSES POLICY

Statement of Policy for Public Act No. 14-11: An Act Concerning Sexual Assault, Stalking and Intimate Partner Violence on Campus:

"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. It is the intent of the BOR and each of its colleges or universities to provide safety, privacy and support to victims of sexual misconduct and intimate partner violence."

UNITED STATES DEPARTMENT OF EDUCATION AND OFFICE OF CIVIL RIGHTS TITLE IX STATEMENT OF POLICY:

"Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in education programs and activities in federally funded schools at all levels. If any part of a school district or college receives any Federal funds for any purpose, all of the operations of the district or college are covered by Title IX.

Title IX protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination, including discrimination based on gender identity or failure to conform to stereotypical notions of masculinity or femininity. All students (as well as other persons) at recipient institutions are protected by Title IX – regardless of their sex, sexual orientation, gender identity, part-or full-time status, disability, race, or national origin-in all aspects of a recipient's educational programs and activities."

If any student experiences sexual misconduct or harassment, and/or racial or ethnic discrimination on Three Rivers Community College Campus, or fears for their safety from a threat while on campus, please contact Vickie Baker, the Diversity Officer and Title IX Coordinator:

ACCEPTANCE POLICY: After reading this syllabus, choosing to stay registered for this course exemplifies your acceptance of the syllabus and all policies and consequences outlined in the syllabus,   If you do not agree with any of the terms in the syllabus, you are free to withdraw.

The key to success in this course is to attend every class and do all the homework when it is assigned. Ask questions when you have them, either in class or in my office. You will find it much easier to learn the new topics if you consistently keep up with the course material and homework problems!

The instructor has the right to change/modify this syllabus at any time with proper notification to the class

COURSE CONTENT - MAT* K172, Fall 2018   (Note: * - denotes review topics)

Chapter 1: **Relations, Functions, and Graphs**
      *1.1) Rectangular Coordinates, Graphing Circles and Other Relations
      *1.2) Linear Equations and Rates of Change
      *1.3) Functions, Function Notation, and the Graph of a Function
      *1.4) Linear Functions, Special Forms, and More of Rates of Change
      1.5) Solving Equations and Inequalities Graphically; Formulas
      1.6) Linear Function Models and Real Data

Chapter 2: **More on Functions**
      2.1) Analyzing the Graph of a Function
      2.2) The Toolbox Functions and Transformations
      2.3) Absolute Value Functions, Equations, and Inequalities
      2.4) Basic Rational Functions and Power Functions
      2.5) Piecewise-Defined Functions
      2.6) Variation: The Toolbox Functions in Action

Appendix A:
      *Appendix A 5-E) Solving Rational Equations
      *Appendix A 6-F) Solving Radical Equations

Chapter 3: **Quadratic Functions and Operations on Functions**
      *3.1) Complex Numbers
      *3.2) Solving Quadratic Equations and Inequalities
      3.3) Quadratic Functions and Applications
      3.4) Quadratic Models: More on Rates of Change
      3.5) The Algebra of Functions
      3.6) The Composition of Functions

Chapter 4: **Polynomial and Rational Functions**
      4.1) Synthetic Division: the Remainder and Factor Theorems
      4.2) The Zeros of Polynomial Functions
      4.3) Graphing Polynomial Functions
      4.4) Graphing Rational Functions
      4.5) Additional Insights to Rational Functions
      4.6) Polynomial and Rational Inequalities

IMPORTANT DATES:

Wednesday – August 29 – First Class

Monday – September 3 – No class (college closed- Labor Day)

Wednesday - September 5: Quiz #1

Wednesday - September 12: Quiz #2

Wednesday - September 19: Quiz #3

Wednesday - September 26: Quiz #4

Wednesday - October 3: Exam #1

*Monday – October 8, Columbus Day – College IS open and classes ARE in session

Wednesday - October 10: Quiz #5

Wednesday - October 17: Quiz #6

Wednesday - October 24: Quiz #7

Wednesday - October 31: Quiz #8

Wednesday - November 7: Exam #2

Wednesday - November 14: Quiz #9

Monday - November 19: Quiz #10

Wednesday – November 21: No class (college IS open but classes are not in session)

Wednesday - November 28: Quiz #11

Wednesday – December 5: Exam #3

Monday - December 10: Quiz #12

Wednesday – December 12: Final Exam

GRADE TALLY:

	Value	Points Earned
Quiz #1	20	
Quiz #2	20	
Quiz #3	20	
Quiz #4	20	
Quiz #5	20	
Quiz #6	20	
Quiz #7	20	
Quiz #8	20	
Quiz #9	20	
Quiz #10	20	
Quiz #11	20	
Quiz #12	20	
Bonus Quiz #1 (if applicable)	20	
Bonus Quiz #2 (if applicable)	20	
Exam #1	100	
Exam #2	100	
Exam #3	100	
Final Exam	200	Contact instructor for points earned
Attendance & Participation	50	Contact instructor for points earned

Only count top 10 scores –

total : 200 points