MAT* K137   Intermediate Algebra   Spring 2016

12383 T20   8:00 am – 9:15 am   D 109
11624 T13   9:30 am - 10:45 am   D 109

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

                      ****
                      Office Hours: Mondays 11:00 am – 12:00 pm
                                        Tuesdays 10:50 am – 11:50 am
                                        Wednesdays 11:00 am – 12:00 pm
                                        Thursdays 10:50 am – 11:50 am
                  and by appointment.
                      ****

REQUIRED MATERIAL:

       • The text is <u>Elementary and Intermediate Algebra 5th Ed</u>., Baratto & Bergman, 2014. You can purchase a hardcover or paperback book with ALEKS access code or just the electronic access kit (which includes ebook).

       • Access code for *ALEKS 360*.

       Options: 1) Combo package; Includes copy of text, ALEX **360** (includes ebook). This gives access for a full year to ALEKS.

                           2) ALEKS **360** 52 wk access code (includes ebook), This gives access for a full year to ALEKS.

                 or 3) ALEKS **360** 18 wk access code (includes ebook), This gives access for spring term only to ALEKS.

CALCULATORS: Scientific calculators will be needed for many homework problems and it is REQUIRED that you bring one to **every class** and **each exam**. Cell phones may **NOT** be used as calculators.

COMPUTERS: In this course, students will use an online program titled **ALEKS 360.** This program can be used on any computer or tablet with internet access. An access code for **ALEKS 360** is required. If you did not purchase a book which has an access code bundled with it, you will have to 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 she is 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 she/he is taking.

Course Code: RTUJF-UA34M

GRADING:

4 One-Hour Exams:	400 points (100 each)	
Final Exam:	150 points	
ALEKS	300 points	
Attendance/Participation:	50 points	
Total:	900 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.

EXAMS: You will have four in-class exams and one 2 hour in-class final exam. Exams are scheduled for the following dates:

- ♦ **Exam 1: Tuesday 2/16/16**
- ♦ **Exam 2: Thursday 3/10/16**
- ♦ **Exam 3: Thursday 4/7/16**
- ♦ **Exam 4: Tuesday 5/10/16**
- ♦ **Final Exam: Tuesday 5/17/16**

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 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 by 8 am prior to the next class meeting day. 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. You will need to sign up for a 2 hour block on Tuesday, 5/17, for your final exam. Please plan accordingly.

ALEKS: A five hour per week minimum level of student participation is required. This will account for 75 of the 300 ALEKS grade points. The five hour participation requirement is waived on a weekly basis ONLY if all course prerequisites have been completed, as well as current topic objectives (topic objectives will be determined at the end of each class meeting). In ALEKS students are expected to complete six intermediate objectives displayed in four objective pies. Completion of each objective pie by its specified due date is worth a total of 200 grade points. Course mastery in ALEKS is worth 25 grade points.

- ♦ Time Goal #1 – due Wednesday 1/27, 11:59 pm
- ♦ Time Goal #2 – due Wednesday 2/3, 11:59 pm
- ♦ Time Goal #3 – due Wednesday 2/10, 11:59 pm
- ♦ **Objective Pie #1: due Monday 2/15, 11:59 pm**

    Exam #1 – Tuesday 2/16
- ♦ Time Goal #4 – due Wednesday 2/17, 11:59 pm
- ♦ Time Goal #5 – due Wednesday 2/24, 11:59 pm
- ♦ Time Goal #6 – due Wednesday 3/2, 11:59 pm

♦ Time Goal #7– due Wednesday 3/9, 11:59 pm

♦ **Objective Pie #2: due Wednesday 3/9, 11:59 pm**

    Exam #2 – Thursday 3/10

♦ Time Goal #8 – due Wednesday 3/16, 11:59 pm

♦ Time Goal #9 – due Wednesday 3/30, 11:59 pm

♦ Time Goal #10 – due Wednesday 4/6, 11:59 pm

♦ **Objective Pie #3: due Wednesday 4/6, 11:59 pm**

    Exam #3 – Thursday 4/7

♦ Time Goal #11 – due Wednesday 4/13, 11:59 pm

♦ Time Goal #12 – due Wednesday 4/20, 11:59 pm

♦ Time Goal #13 – due Wednesday 4/27, 11:59 pm

♦ Time Goal #14 – due Wednesday 5/4, 11:59 pm

♦ **Objective Pie #4: due Monday 5/9, 11:59 pm**

    Exam #4 – Tuesday 5/10

♦ Time Goal #15 – due Wednesday 5/11, 11:59 pm

♦ **Course Mastery Pie: due Tuesday 5/17, 9:30 am**

    2 hour Final Exam – Tuesday 5/17

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/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.

All absences reported by phone or reported to instructor in person **must be followed up with an email, or they will be considered unexcused. 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 exams).

Note: It is expected that you will be in your seat and ready to go at the start of class time (T20 – 8:00 am, T13 - 9:30 am). Plan on arriving to class 5 minutes prior to the scheduled start time. Students arriving after the class start time will lose attendance points for that class. Excessive "lateness" will not be tolerated, it is disruptive to both the instructor and the class. Excessive lateness will result in classroom doors being locked at the designated class start time. Also, students leaving class prior to the scheduled end time will lose attendance points for that class unless arrangements have been made with the instructor prior to the class in which the student needs to leave early.

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. 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. Please DO NOT email instructor regarding weather delays/closings.

STUDENT EMAILS: Students are required to have a valid email. If it is necessary for me to email the entire class, I will use ALEKS and/or 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.

EXPECTATION: Our expectation is that you are spending 2-3 hours of reading and doing homework for this class for every "academic" hour we meet in class. We meet 3 "academic" hours per week, therefore you should expect to spend *at least* **6 - 9 hours per week** on this class, outside of class meetings, every week!

HOMEWORK QUESTIONS: Class time is reserved for presentation of material. Homework questions will be answered outside class meetings.

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

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!

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.

COURSE OBJECTIVES: This course cultivates understanding and different representations of functions. The course covers linear, quadratic, exponential, rational, radical functions, equations and expressions and operations on them with emphasis on modeling and solving real world problems.

COURSE OUTCOMES:

At the completion of MAT 137, the student will be able to do the following :

FACTORING
1) Factor monomials
2) Factor polynomials by grouping
3) Factor perfect square trinomials, difference of squares, sum/difference of cubes
4) Factor quadratics

Quadratic Functions and/or Expressions
1) Provide multiple representations of quadratic functions or expressions by hand and/or using technology
2) Determine identifying characteristics of quadratic functions or expressions (e.g., factors)
3) Evaluate, simplify, and perform operations on quadratic functions or expressions
4) Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically
5) Solve real world applications involving quadratic equations and functions

Radical Functions and/or Expressions
1) Provide multiple representations of simple radical functions or expressions by hand and/or using technology, with primary emphasis on square root
2) Determine identifying characteristics of radical functions or expressions
3) Evaluate, simplify, and perform operations on simple radical functions or expressions
4) Solve simple radical equations algebraically and/or graphically
5) Solve real world applications involving radical functions
6) Identify imaginary numbers

Exponential Functions and/or Expressions

1) Provide multiple representations (e.g., tables, graphs, symbols) of exponential functions or expressions by hand and/or using technology
2) Determine identifying characteristics of exponential functions or expressions
3) Evaluate, simplify, and perform operations on exponential functions or expressions
4) Identify real world applications involving exponential functions and/or solve graphically

Rational Functions and/or Expressions

1) Provide multiple representations of simple rational functions or expressions by hand and/or using technology
2) Determine identifying characteristics of rational functions or expressions
3) Evaluate, simplify, and perform operations on simple rational functions or expressions
4) Solve simple rational equations algebraically and/or graphically
5) Solve real world applications involving rational functions

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

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

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 ringing or beeping during a class is inappropriate and unacceptable. Any cell phone use is also 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 for all exams. Any visible cell phone during an exam will result in a 0 for that exam.

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

Week of:	Chapter(s):	Topics Covered:
1/21	2.5	Functions
1/26	6.1, 6.2, 6.3	An Introduction to Factoring, Factoring Special Products, Factoring: Trial and Error ♦ Time Goal #1 – due Wednesday 1/27, 11:59 pm
2/2	6.4, 6.5	Factoring: The *ac* Method, Factoring Strategies ♦ Time Goal #2 – due Wednesday 2/3, 11:59 pm
2/9	6.6	Factoring and Problem Solving, ♦ Time Goal #3 – due Wednesday 2/10, 11:59 pm
2/16		**♦ Objective Pie #1, Chapters 2,6: due MONDAY, 2/15, 11:59 pm** **♦ Exam #1, Chapter 2 & Chapter 6: Tuesday 2/16**
	7.1	Roots and Radicals ♦ Time Goal #4 – due Wednesday 2/17, 11:59 pm
2/23	7.2, 7.3, 7.4	Simplifying Radical Expressions, Operations on Radicals, Solving Radical Equations ♦ Time Goal #5 – due Wednesday 2/24, 11:59 pm
3/1	7.4, 7.5, 7.6	Solving Radical Equations, Rational Exponents, Complex Numbers ♦ Time Goal #6 – due Wednesday 3/2, 11:59 pm
3/8	8.1	Solving Quadratic Equations **♦ Objective Pie #2, Chapter 7: due WEDNESDAY, 3/9, 11:59 pm** ♦ Time Goal #7– due Wednesday 3/9, 11:59 pm **♦ Exam #2, Chapter 7: Thursday 3/10**
3/15	8.1, 8.2	Solving Quadratic Equations, continued…, The Quadratic Formula ♦ Time Goal #8 – due Wednesday 3/16, 11:59 pm
3/22		**SPRING BREAK!!**
3/29	8.3, 8.4	An Introduction to Parabolas, Quadratic Equations and Problem Solving ♦ Time Goal #9 – due Wednesday 3/30, 11:59 pm
4/5		**♦ Objective Pie #3, Chapter 8: due WEDNESDAY, 4/6, 11:59 pm** ♦ Time Goal #10 – due Wednesday 4/6, 11:59 pm **♦ Exam #3, Chapter 8: Thursday 4/7**
4/12	9.1, 9.2, 9.3	Simplifying Rational Expressions, Multiplying and Dividing Rational Expressions, Adding and Subtraction Rational Expressions ♦ Time Goal #11 – due Wednesday 4/13, 11:59 pm
4/19	9.6	Rational Equations and Problem Solving **No class Thursday 4/21 – Instructor out of town!** ♦ Time Goal #12 – due Wednesday 4/20, 11:59 pm
4/26	9.6	**No class Tuesday 4/26 – Instructor out of town!** Rational Equations and Problem Solving, continued… ♦ Time Goal #13 – due Wednesday 4/27, 11:59 pm
5/3	10.4	Exponential Functions ♦ Time Goal #14 – due Wednesday 5/4, 11:59 pm
5/10		**♦ Objective Pie #4, Chapters 9,10: due MONDAY, 5/9, 11:59 pm** **♦ Exam #4, Chapter 9, 10: Tuesday 5/10** ♦ Time Goal #15 – due Wednesday 5/11, 11:59 pm
5/17		**♦ Full Pie due Tuesday, 5/17, 9:30 am** **♦ FINAL EXAM – Tuesday 5/17** *****2 hour final exam*****