MAT* K186 Pre-Calculus Spring 2015

10409 T4 TR 6:00 pm – 7:40 pm E 221

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: 1:00 pm – 2:00 pm
Tuesdays: 12:30 pm – 1:30 pm
Wednesdays: 12:00 pm – 1:00 pm
Thursdays: 11:30 am – 12:30 pm
and by appointment.

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REQUIRED MATERIAL:

- *Precalculus, 9th Edition*. Larson. Cengage Learning 2014. ISBN # 9781133949015
- 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.

GRADING:

3 Exams:	300 points (100 each)
Weekly Quizzes:	200 points (20 each)
Final Exam	150 points
Attendance & Participation	50 points
Total:	700 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.

ATTENDANCE: 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). **All absences reported by phone or reported to instructor in person **must** be followed up with an email, or they will be considered unexcused. Oversleeping and "colds" are examples that are **not** valid reasons for an absence. Do you best to not miss ANY classes!! Excused absences will not affect your attendance and participation grade, unexcused absences will lower your attendance and participation grade. Students are allowed a maximum of 2 excused absences per semester.

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 the scheduled tests/quizzes).

Note: Class BEGINS at 6:00 pm. It is expected that you will be in your seat and ready to go at 6:00 pm. Students arriving after 6:00 pm will lose attendance points for that class. Excessive "lateness" will not be tolerated, it is disruptive to both the instructor and the class.

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.

HOMEWORK AND QUIZZES: Homework will be assigned on a regular basis. It is expected that you complete your homework by the next class meeting. Our 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* 8-12 hours per week** on this class, every week!

Your in-class quizzes will be testing the concepts emphasized from class that and your homework assignments. Make-ups for quizzes will be given in extreme situations and if arrangements are made with the instructor **prior** to the class meeting in which the quiz takes place. If you miss a class in which a quiz in given, DO NOT assume you will automatically be able to make up the quiz, it must be approved by the instructor. All make-ups must be completed before the next class meeting after the given quiz. Make-ups for quizzes will not be given if the absence on the quiz date is not an excused absence. There are no make-ups for quizzes on the days exams are distributed, or for the last quiz.

You will be given 14 quizzes throughout the semester, only your top 10 scores will count toward your final grade.

EXAMS: You will have three out of class exams and one in-class final exam. Exams are scheduled for the following dates:

- **Exam 1**: distributed **Thursday 2/19/15**, due **Tuesday 2/24/15 6:00 pm,**
- **Exam 2:** distributed **Thursday 4/2/15**, due **Tuesday 4/7/15 6:00 pm,**
- **Exam 3:** distributed **Thursday 5/7/15**, due **Tuesday 5/12/15 6:00 pm,**
- **Final Exam:** (in-class) **Tuesday 5/19/15, 6:00 pm – 8:00 pm**

This may change (but hopefully not), depending on how we are doing. All exams are due at 6 pm on their due dates, and must be delivered in person. DO NOT scan and email any exams! Emailed exams will *not* be accepted.

If you fail to hand in an exam by the respective due date and time, you will receive a grade of 0 (zero). Exams may be handed in prior to their due date/time by either bringing to my office of placing in my faculty box (D207). It is HIGHLY SUGGESTED you make a copy of your exam before handing it in, especially if you decide to hand it in early and place it in my mailbox.

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

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 homework, quizzes and exams. Communication or collaboration of ANY sort is ABSOLUTEY PROHIBITED during any quiz or 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 Honor Council. Do not let yourself come under the suspicion of academic dishonesty. If two or more student exams are too similar for my liking, all parties involved will need to meet individually with me and go through the problems in question. You may also be asked to complete a similar problem in our meeting, explaining your work.

COURSE OBJECTIVES: This course prepares students for the study of Calculus I. Topics include, but are not limited to: polynomial and rational functions and their graphs, quadratic functions, operations on radical expressions, exponential and logarithmic functions, trigonometric functions and their graphs, trigonometric equations and identities, systems of equations, matrices and determinants.

COURSE OUTCOMES: After successful completion of the course, the student should be able to:

1) Evaluate a function at any given value of *x*
2) Find the domain and range of a function
3) Graph functions using tables, transformations
4) Graph piece-wise functions
5) Determine whether the function is even, odd, or neither
6) Identify the local max, min for some functions, intervals of increase/decrease.
7) Model with functions.
8) Combine functions, find compositions, inverses.
9) Graph polynomials, find their zeroes, the *x*- intercepts, analyze their end behavior. Factor Theorem.
10) Graph rational functions, find the asymptotes.
11) Perform the operations with complex numbers.
12) Find trigonometric form of a complex number.
13) Evaluate, graph exponential and logarithmic functions.
14) Solve exponential and logarithmic equations, model with exponential and logarithmic equations.
15) Find the angle measure in radian, degree.
16) Find all trigonometric ratios in a right triangle.
17) Find the values of trigonometric functions from the information given.
18) Solve a right triangle.
19) Solve a triangle using the Law of Sines, the Law of Cosines.
20) Find trigonometric functions of real numbers using unit circle approach.
21) Graph the trigonometric functions.
22) Use the trigonometric identities, addition, subtraction, double, half-angle formula.
23) Evaluate inverse trigonometric functions.
24) Solve trigonometric equations.
25) Find the partial fraction decomposition of rational functions.
26) Use sequence notation to write the terms of sequences
27) Use factorial notation.
28) Use summation notation to write sums.
29) Model the real-life problems with arithmetic, geometric sequences.

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. Please note that accommodations cannot be provided until you provide written authorization from a Disability Service Provider.

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, especially texting, during class is also inappropriate and will not be tolerated. Students found using cell phones in any way in class will be asked to leave and will lose their attendance points for that class period. Cell phones may NOT be used for calculators in class. Note: All cell phones must be completely out of sight for all quizzes and exams. Any visible cell phone during a quiz or exam will result in a 0 for that quiz/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

COURSE CONTENT - MAT* K186, Spring 2015

Chapter 1- Functions and Their Graphs
1.4 – 1.9 (review)

Chapter 2 – Polynomials and Rational Functions
2.2, 2.6 (review)

Chapter 3 – Exponential and Logarithmic Functions
3.1 – 3.5 (review)

Chapter 4 – Trigonometry
4.1 – 4.8

Chapter 5 – Analytic Trigonometry
5.1 – 5.5

Chapter 6 – Additional Topics in Trigonometry
6.1, 6.2, 6.5

Chapter 9 – Sequences & Series
9.1 – 9.3

IMPORTANT DATES

Thursday, 1/29 – Quiz #1

Thursday, 2/5 – NO CLASSES – College Professional Day

Thursday, 2/12 – Quiz #2

Thursday, 2/19 – Quiz # 3, Exam #1 Distributed

Tuesday, 2/24 – Exam #1 due, 6 pm

Thursday, 2/26 – NO MAT 186 – Instructor out of town!

Thursday,3/5 – Quiz #4

Thursday, 3/12 – Quiz #5

Monday 3/16 – Saturday 3/21 – NO CLASSES – Spring Break!!

Thursday, 3/26 – Quiz #6

Thursday, 4/2 – Quiz # 7, Exam #2 Distributed

Tuesday, 4/7 – Exam #2 due, 6 pm

Thursday, 4/9 – Quiz #8

Thursday, 4/16 – Quiz #9

Thursday, 4/23 - NO MAT 186 – Instructor out of town!

Tuesday, 4/28 - NO MAT 186 – Instructor out of town!

Thursday, 4/30 – Quiz #10

Thursday, 5/7 – Quiz #11, Exam #3 Distributed

Tuesday, 5/10 – Exam #3 due, 6 pm

Thursday, 5/12 – Quiz #12

Tuesday, 5/19 – Final Exam