Syllabus
Three Rivers Community College
MAT 186 – Pre-Calculus
Fall 2015

Instructor:

Roxanne N. Tisch
Office: C-248
Office Hours: Monday 1:00 – 2:00 pm
                       Tuesday 1:00 – 2:00 pm
                       Wednesday 1:00 – 2:00 pm
                       Also by appointment
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Course Description:

This course is a detailed study of functions and relations, including circular functions, operations on functions and their graphs. Students will study polynomial, power, rational, exponential, logarithmic, and trigonometric functions, trigonometric identities and applications, introductory sequences and series.

Required Materials:

♦ The required text is <u>PreCalculus,</u> 9th Ed., Larson, Brooks/Cole Centage Learning, 2014
♦ WebAssign
♦ Graphing calculator. Cell phones may not be used as graphing calculators during tests or exams.

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 and completing that work by the next week after any missed class. Short unannounced quizzes may be given and they cannot be made up. Written homework that is due on a day you miss class will not be accepted late.

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.

Grading Policy:

Your final grade will be based on scores in three categories: tests and exams, homework, and quizzes.

Tests and Exams (65% of final grade)
Throughout the semester there will be three 100-point exams and a final exam (100 points). The test schedule will be given to you during the second week of class.

Homework (25% of final grade)
You are responsible for completing assignments from the book as well as computerized assignments in WebAssign. You will receive a grade based on the percentage of the work completed and the homework graded or checked by the instructor.

Quizzes (10% of final grade)
You will have weekly online quizzes. The quizzes will open on Friday and close on Sunday evening. You must complete the quiz within this time frame.

In order to receive a passing grade in the class, you must have at least a 60% average in each category. Assuming you do have a 60% average in each category, your final grade will be determined using a weighted average of the grades in each category.

Letter grade equivalents are listed below:

Grade	Weighted Average of Categories
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	65-69
F	Below 65

The prerequisite for moving on to the next course is a C or better in this course.

Homework:

Homework will be assigned each class. 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. **I expect that you will attempt the homework and ask any questions before the next class**. You can ask questions via email or stop by my office. I will give you a list of suggested problems which are extra practice for your benefit. The suggested problems are not to be handed in. I will assign specific problems for you to hand in. Please refer to the guidelines for handing in homework.

The 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 about 4 "academic" hours per week, therefore you should expect to spend *at least* **8 - 12 hours per week** on this class, outside of class meetings, every week!
   *NOTE: Class time is reserved for presentation of material. Homework questions will be answered before class begins or at the end of the class meeting or during office hours.

Extra Credit:
There will be no extra credit assignments.

Contact:
All communication will occur by email. Please make sure that you either check your Three Rivers email or set it up to forward to your regular email address. 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 14 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 or N* depending on the date you stop attending. Any eligibility for refund of tuition is based on the date that the registrar receives the withdrawal.

Disabilities Statement:
Students with disabilities are guaranteed reasonable accommodation under the provisions of the Americans with Disabilities Act of 1992. Disclosure of a disability must be voluntary. Valid and reliable documentation to verify eligibility for accommodation is required and must be submitted to the Student Development Offices of Student Services. If you have accommodations documented through the Student Services office, please see me as soon as possible so arrangements can be made. If you would like more information or want to schedule a confidential meeting, please contact the Learning Specialist, Chris Scarborough, at 860-215-9289.

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. See me before or after class, visit me during office hours, or schedule an appointment if you have any questions.
2. Send me email if you have any 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), 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 860-215-9000, 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:

At the end of the course, a student should be able to

1. Evaluate a function for any given value of x.
2. Find the domain and range of the function.
3. Graph functions, using the tables and transformations.
4. Analyze graphs of functions: find zeros of function, the x- and the y intercepts, local max, min for some functions, intervals of increase/decrease, average rate of change, even, odd, or neither .
5. Graph piece-wise defined functions.
6. Model with functions.
7. Combine functions and find their compositions, inverses.
8. Graph polynomials, find their zeroes, the x - intercepts, analyze their end behavior.
9. Graph rational functions and find the asymptotes.
10. Evaluate and graph exponential and logarithmic functions.
11. Solve exponential and logarithmic equations.
12. Model with exponential and logarithmic equations.
13. Find the angle measure in radians and degrees.
14. Find coterminal, complementary, and supplementary angles.
15. Identify the unit circle and evaluate the trigonometric functions using the unit circle.
16. Find the domain and period of trigonometric functions. Graph trigonometric functions.
17. Find all trigonometric ratios in a right triangle; evaluate trigonometric functions of acute angles.
18. Use the fundamental trigonometric identities, sum and difference of angles formulas, double and half angle formulas.
19. Find reference angles and the trigonometric functions of any angles.
20. Find the values of trigonometric functions of real numbers.
21. Evaluate and graph inverse trigonometric functions.
22. Evaluate compositions of trigonometric functions.
23. Solve trigonometric equations.
24. Solve a right triangle.
25. Solve a triangle using the Law of Sines and the Law of Cosines.
26. Find the trigonometric form of a complex number.
27. Use sequence notation to write the terms of sequences.
28. Use factorial notation.
29. Use summation notation to write sums.
30. Recognize, write, and find the nth term of arithmetic and geometric sequences.
31. Find partial sums of arithmetic sequences.
32. Find the sum of infinite geometric sequences.
33. Model the real-life problems with arithmetic, geometric sequences.

Course Outline:
We will cover the following sections of the text:

Chapter 1 Functions and Their Graphs

Chapter 2 Polynomials and Rational Functions

Chapter 3 Exponential and Logarithmic Functions

Chapter 4 Trigonometry

Chapter 5 Analytic Trigonometry

Chapter 6 Additional Topics in Trigonometry

Chapter 9 Sequences, Series, and Probability