MAT 186 - 10894 Precalculus 4 Credits
Three Rivers Community College Spring 2014

Instructor:	Michael Bergwell	Class Time:	MW 1:00-2:40
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Office Hours:	M 5-6 pm, T 4:30-6, W 3-3:30, R 4-5 and by appointment		

PREREQUISITE: MATH 137, Intermediate Algebra

TEXT: Precalculus, 6th edition by: J. Stewart, L. Redlin, and S Watson

COURSE DESCRIPTION: This course prepares students for the study of Calculus I. The topics include polynomials and rational functions and their graphs, quadratic and absolute inequalities, radical expressions, conic sections, exponential and logarithmic functions, trigonometric functions, trigonometric identities and applications.

MEASUREMENTS: Quizzes - 20%, 3 tests, each test – 20%, final exam – 20%.
Grade equivalents: A 93 – 100, A- 90 – 93, 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, F below 60.

Attendance: Your attendance in the classroom, participation in classroom work/projects and preparation for each class is required and is essential to success in the course. If you cannot attend the class for a period of time, please contact me so we can make the arrangements for makeup work.

Support Services: Tutorial services. Peers. Meeting with me for extra help on an appointment basis.

Class Cancellation: In case of inclement weather, check the college website for class cancellations or call 860-886-0177 for recorded message on the college phone.

Methods of Evaluation: Quizzes will be given each Wednesday of every non-exam week. Quiz make-ups will not be allowed. I will drop your lowest two quiz scores. We will have three regular exams throughout the semester. A student's lowest exam will be replaced by the final exam score (provided the final exam score is higher) – make-up exams will only be given under extreme circumstances. I will assign homework from the textbook as practice – homework will not be graded. I will also make problems available online through webassign. Go to www.webassign.net and create an account. The class key is **trcc.mohegan 4705 5798**. Webassign homework is also optional.

Plagiarism and Academic Honesty: At TRCC, we expect the highest standards of academic honesty. The Board of Trustees' Proscribed Conduct Policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism.

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Disabilities Statement: Students with disabilities, who may require special accommodations and support services, are encouraged to notify:

1. Chris Scarborough, who is coordinating services to students with disabilities.
2. The instructor during the first two weeks of class.

COURSE CONTENT:

CHAPTER 2 Functions
SECTIONS 2.1-2.7

EXAM 1

CHAPTER 3 Polynomial and rational functions
SECTIONS 3.1-3.7

CHAPTER 4 Exponential and logarithmic functions
SECTIONS 4.1- 4.6

Exam 2

CHAPTER 5 Trigonometric functions of real numbers
SECTIONS 5.1 – 5.4

CHAPTER 6 Trigonometric functions of angles
SECTIONS 6.1- 6.6

Exam 3

CHAPTER 7 Analytic Trigonometry
SECTIONS 7.1- 7.5

FINAL EXAM

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OUTCOME:
After the successful completion of the course the student must be able to:

1. Evaluate a function at any given value of x.
2. Find the domain and range of the function.
3. Graph the functions, using the tables, transformations.
4. Graph the piece-wise defined functions.
5. Determine whether the function is even, odd, or neither.
6. Find local max, min for some functions
7. Model with functions.
8. Combine the functions, find their 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. Evaluate, graph exponential and logarithmic functions.
13. Solve exponential and logarithmic equations, model with exponential and logarithmic equations.
14. Find the angle measure in radian, degree.
15. Find all trigonometric ratios in a right triangle.
16. Find the values of trigonometric functions from the information given.
17. Solve a right triangle.
18. Solve a triangle using the Law of Sines, the Law of Cosines.
19. Graph the trigonometric functions.
20. Use the trigonometric identities, addition, subtraction, double, half-angle formula.
21. Evaluate inverse trigonometric functions.
22. Solve trigonometric equations.
23. Solve systems of linear equations in several variables using determinants.
24. Find the partial fraction decomposition of rational functions