

Syllabus

PRECALCULUS

Math 186

Spring 2010

Instructor: John DeLucia

Office Hours: By Appointment

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Prerequisite: Intermediate Algebra, Math 137

Required Text: Precalculus, 5th ed., by Stewart, Redlin and Watson.

Supplementary Materials: Graphing Calculator (TI-83, 84, or 89 recommended)

Course Description: This course prepares students for the study of Calculus I. The topics include polynomial and rational functions and their graphs, radical expressions, exponential and logarithmic functions, trigonometric functions and their graphs, trigonometric identities and applications, matrices and determinants.

Grading Policy: A student will receive one of the following grades: A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F, W, P, or Audit. Your grade will be determined in the following manner:

1. *Tests.* There will be six tests given throughout the semester. The tests will be worth 90 % of the final grade. Makeup tests will be available if prior arrangements are made with the instructor. You may retake the test on which you earned the lowest grade at the end of the semester.
2. *Homework.* Homework will be assigned throughout the semester and I will collect and grade these assignments occasionally. The homework will be worth 10 % of the final grade.

Grade	A 93 – 100	B+ 87 – 89	C+ 77 - 79	D+ 67 – 69	F 59 or below
Equivalents:	A- 90 – 92	B 83 – 86	C 73 – 76	D 63 – 66	
		B- 80 – 82	C- 70 – 72	D- 60 – 62	

Attendance: Regular class attendance is expected and attendance is mandatory for tests and the final exam.

Support Services: The tutoring center offers free services to all TRCC students. Additionally, the textbook has a web site and supplemental materials.

Disabilities Statement: If you are a student with a disability and believe that you will need accommodations for this class, it is your responsibility to contact the Disabilities Counseling Services at 383-3240. To avoid any delay in the receipt of accommodations, you should contact the counselor as soon as possible. Please note that I cannot provide any accommodations based upon your disability until I have received notification from the disabilities counselor.

Academic Integrity: You are expected to do your own work on exams, tests, and quizzes. You may receive help and work collaboratively on homework provided you understand the work you submit. I will enforce college policies on academic dishonesty.

Tentative Course Outline:

<u>Date</u>	<u>Sections Covered</u>
1/21	Chapter 1
1/26	2.1, 2.2
1/28	2.3, 2.4
2/02	2.5, 2.6
2/04	<i>No Classes – College Professional Day</i>
2/09	2.7, 2.8
2/11	Review
2/16	<i>Test - Chapters 1 and 2</i>
2/18	3.1, 3.2
2/23	3.3, 3.4
2/25	3.5, 3.6
3/02	Review
3/04	<i>Test - Chapter 3</i>
3/09	<i>No Classes – Spring Break</i>
3/11	<i>No Classes – Spring Break</i>

3/16	4.1, 4.2
3/18	4.3, 4.4
3/23	4.5, Review
3/25	<i>Test - Chapter 4</i>
3/30	6.1, 6.2
4/01	6.3, 6.4
4/06	6.5, Review
4/08	<i>Test – Chapter 6</i>
4/13	5.1, 5.2
4/15	5.3, 5.4
4/20	5.5, Review
4/22	<i>Test – Chapter 5</i>
4/27	7.1, 7.2
4/29	7.3, 7.4
5/04	7.5, 9.3
5/06	9.7, 9.8
5/11	Review
5/13	<i>Test – Chapters 7 and 9</i>
5/18	<i>Make-up Lowest Test - Optional</i>

Learning Outcomes: After successful completion of this course, the student will be able to:

1. Evaluate a function at any given value
2. Find the domain and range of a function.
3. Graph functions using tables and transformations, including piece-wise defined functions.
4. Find the average rate of change.
5. Determine whether functions are even, odd, or neither.
6. Find local maximums and minimums of a function.
7. Model with functions.
8. Combine functions, find compositions and inverses.
9. Graph polynomials, find zeroes, and analyze end behavior.
10. Graph rational functions, find asymptotes.
11. Perform operations with complex numbers.
12. Evaluate and graph exponential and logarithmic functions.
13. Solve exponential and logarithmic equations, model with exponential and logarithmic functions.
14. Find angle measure in both radians and degrees.
15. Find all the trigonometric ratios in a right triangle.
16. Find values of trigonometric functions using the unit circle, special right triangles, and reference angles.
17. Solve a right triangle.
18. Solve a triangle using the Laws of Sines and Cosines.
19. Graph the trigonometric functions.
20. Use trigonometric identities including the addition, subtraction, double and half-angle formulas.
21. Evaluate inverse trigonometric functions.
22. Solve trigonometric equations.
23. Solve systems of linear equations in several variables using matrices and determinants.
24. Find the partial fraction decomposition of rational functions.