

SPRING 2008

COURSE: MATH 186, Precalculus, 4 credit hours
PREREQUISITE: MATH 137, Intermediate Algebra
INSTRUCTOR: LARISA ALIKHANOVA

TEXT: Precalculus, 5th edition by: J. Stewart, L. Redlin, and S Watson
SUPPLEMENTARY MATERIAL: TI – 83 calculator

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, projects - 15%, each test – 20%, final exam – 25%. Your final exam grade can be counted twice; it can replace your lowest or missed test grade.

GRADING: A 94-100; 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: Attendance is extremely important. Your attendance, participation in classroom work and preparation for each class is required and is essential for your success in the course.

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.

SUPPORT SERVICES: Tutorial services. Peers. Meeting with me for extra help on an appointment basis.

OFFICE HOURS: M, W 10:15 a.m.-11:45 a.m., T 4:30 p.m. – 5:30 p.m.,
Room 204, Thames Valley Campus. Phone# 885-2375
E-mail lalikhanova@trcc.commnet.edu
Check your e-mail regularly for test/quiz/homework announcements. Check you email and MyCommNet for class cancellations.

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 2.1-2.8

TEST

CHAPTER 3 Polynomial and rational functions
SECTIONS 3.1-3.6

CHAPTER 4 Exponential and logarithmic functions
SECTIONS 4.1- 4.5

TEST

CHAPTER 5 Trigonometric functions of real numbers
SECTIONS 5.3- 5.4

CHAPTER 6 Trigonometric functions of angles
SECTIONS 6.1- 6.5

TEST

CHAPTER 7 Analytic Trigonometry
SECTIONS 7.1- 7.5

QUIZ

Chapter 9 SYSTEMS OF EQUATIONS
Sections 9.3, 9.7, 9.8

FINAL EXAM

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, analyze their end behavior.
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

Homework(odd numbers): This is a guide only. Assignments may vary.

Chapter 2:	2.1	p.155	11, 13, 15, 21, 23 39, 41, 45, 63
	2.2	p.167	11, 13, 15, 23, 25, 37, 41, 49, 53, 55, 57
	2.3	p.179	1, 3, 5, 17
	2.4	p.190	1 – 19, 33 – 45, 61 – 67
	2.5	p.200	1, 3, 11, 15
	2.6	p.210	3, 5, 11
	2.7	p.219	1 – 9, 19 – 27 33, 37, 39
	2.8	p.230	1 – 5, 21 – 25, 31 – 37
Chapter 3:	3.1	p.262	1, 5, 7, 9, 11, 15, 17, 23, 27
	3.2	p.270	1, 9, 15, 39, 51, 55 0, 57
	3.3	p.279	11, 41
	3.4	p.289	1, 5, 7, 9, 11, 19, 25, 29, 31, 33, 43, 45
	3.5	p.298	1, 7, 23, 33, 35
	3.6	p.312	1, 5, 7, 11, 13, 15, 17, 23, 33, 37, 57
Chapter 4:	4.1	p.336	11, 13, 15, 19 – 23
	4.2	p.349	5 – 29, 37, 41 – 45
	4.3	p.356	1 – 27, 39 – 45
	4.4	p.366	1 – 21, 35 – 45
	4.5	p.379	1, 5, 15, 17
Chapter 5:	5.3	p.429	1, 5, 7, 17, 19
	5.4	p.441	7, 15, 25
Chapter 6:	6.1	p.474	1 – 45, 53 – 63
	6.2	p.484	1 – 35, 49 – 53
	6.3	p.495	1 - 15, 33 – 39, 43 – 47
	6.4	p.506	1 – 13, 17 – 23
	6.5	p.513	1 – 13, 19, 21, 27
Chapter 7:	7.1	p.533	1 - 17, 25 – 41
	7.2	p.539	1 – 17
	7.3	p.548	5 – 17, 27 – 31, 35, 37
	7.4	p.568	1 – 17, 41, 43
	7.5	p.579	3, 5, 9, 11, 15, 17, 19
	7.6	p.589	1, 3, 23, 29, 35, 47, 51, 55, 63, 75
Chapter 9:	9.3	p.657	5, 9, 15, 19
	9.7	p.713	15, 19, 29, 35
	9.8	p.720	1, 3, 5, 13, 15