

MAT 137 INTERMEDIATE ALGEBRA

Prof. Larisa Alikhanova

Spring 2011

Course Number: 11255, K137

Meeting time: M, W 2:00 pm – 3:15 pm, room D 109

Prerequisite: MAT 095 or appropriate score on the mathematics placement exam

Textbook: Intermediate Algebra; 4th Edition, by Jay Lehman

Course Description: Includes a rigorous study of the polynomial, rational, exponential, logarithmic, radical, and quadratic functions and their applications to modeling the data, systems of equations. Re-enforces the basic foundation of Algebra based on functional approach, builds upon this foundation a more in-depth understanding of the basic structure of Algebra and the relations to the processes that occur in everyday life.

Measurements: Quizzes, projects – 15%, each test – 20%, final exam 25%.
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: Attendance is extremely important. Your attendance, participation in classroom work and preparation for each class is required and is essential to your success in the course. If you cannot attend the class for a period of time, please contact me so we can make arrangements for makeup works.

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.

Office Hours: M, W 3:30 pm – 5:30 pm, Room C104
E-mail lalikhanova@trcc.commnet.edu

Class Cancellation:

1. In case of increment weather, check the college website for class cancellations or call 860-886-0177 for recorded message on the college phone. If the college **is not closed**, please check my voice mail by calling 860-885-2375 to listen to my announcement regarding the class cancellation or check the notice on Blackboard course shell because I may not be able to commute on that day.
2. At the start of the semester we'll establish a class phone tree to enable us to contact one another in case of class cancellation for a reason other than a full college closing.

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

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 Outline/Schedule:

Chapter 1	Linear Equations and Linear Functions Section 1.6	1/24/2011 – 1/31/2011
	Trigonometric Functions of Acute Angles Right Triangle Trigonometry	1/31/11 – 2/07/11
Chapter 2	Modeling with Linear Functions Sections 2.1 – 2.3	2/07/11 – 2/14/11
Chapter 3	Systems of Linear Equations Sections 3.2, 3.3	2/14/11 – 2/21/11
<u>TEST 2/23/11</u>		
Chapter 4	Exponential Functions Sections 4.1-4.5	2/28/11 – 3/07/11
Chapter 5	Logarithmic Functions Sections 5.2-5.6	3/07/11 – 3/23/11
Chapter 6	Polynomial Functions Sections 6.1 - 6.6	3/28/11 – 4/04/11
<u>TEST 4/06/11</u>		
Chapter 7	Quadratic Functions Sections 7.1-7.3, 7.5 – 7.7	4/11/01 – 4/18/11
Chapter 8	Rational Functions Sections 8.1-8.3, 8.5 - 8.6	4/18/11 – 4/24/11
<u>TEST 4/27/11</u>		
Chapter 9	Radical Functions Sections 9.1, 9.2, 9.5	5/02/11 – 5/09/11

FINAL EXAM 5/16/11

Course Outcome:

Upon successful completion of this course, the student should be able to:

1. Know the meaning of relation, function, domain, range.
2. Identify functions.
3. Use linear functions to model data.
4. Find the equation of a linear model, interpret it.
5. Solve and graph linear compound inequalities.
6. Use substitution, elimination, graphs to solve systems of equations.
7. Use systems to model the data.
8. Know exponential functions, the graphs.
9. Simplify exponents.
10. Find the equation of exponential functions.
11. Use exponential functions to model data.
12. Know logarithms, their properties, logarithmic functions, their graphs.
13. Solve logarithmic and exponential equations.
14. Simplify logarithmic expressions.
15. Perform operations on polynomials.
16. Factor by using GCF, the difference of squares, the sum and difference of cubes, quadratic trinomials and solve polynomials by factoring.
17. Find the domain of rational function, vertical asymptote.
18. Perform operations on rational expressions. Simplify rational expressions.
19. Solve rational equations.
20. Model with rational functions
21. Solve quadratic equations by factoring, taking square roots, completing the square and quadratic formula.
22. Graph quadratic functions.
23. Find an equation of a quadratic model, graph it, find and interpret minimum or maximum value, the intercepts.
24. Simplify the radical expressions.
25. Perform the operations on radical expression.
26. Solve radical equations.
27. Find all 6 trigonometric ratios in a given right triangle.
28. Solve right triangles.

HOMEWORK ASSIGNMENT (Odd numbered problems). This is a guide only. The assignments may vary.

- 1.5 p.50 35 – 69 odd
1.6 p.60 21, 33, 41
1.8 p.83 1 – 13 odd
- 2.5 p. 171 1, 15, 21, 27, 31, 41, 43, 49, 51, 53, 57, 75, 77, 79
- 3.2 p. 227 23, 27, 29, 31, 41, 55, 57, 61, 69, 71, 75, 79
3.3 p. 236 19, 21, 27, 29, 31, 33, 35, 37, 41
- 4.1 p. 278 1, 7, 11, 15, 19 – 37 odd, 81 – 86 all
4.2 p. 287 5 – 13 odd
4.3 p. 296 1, 9, 11, 17
- 5.1 p. 331 49 – 81 odd
5.2 p. 338 29 – 55 odd
5.3 p. 351 1, 5, 9, 13, 49 – 55 odd
5.4 p. 360 1 – 11, 19 – 25, odd, 27, 29, 31, 43, 45
5.5 p. 366 9 – 21, 43 – 55 odd
5.6 p. 376 1 – 11, 17 – 33, 41
5.7 p. 382 1 – 27 odd
5.8 p. 395 1 – 23, odd, 37, 47, 87
- 6.1 p. 420 13 – 51 every other odd
6.2 p. 429 5, 27, 33, 45
6.3 p. 436 1, 3, 7, 15, 17
6.5 p. 452 11, 13, 15, 17
6.6 p. 462 5, 7, 19, 23, 27
- 7.1 p. 491 1 – 11, 19 – 27 odd
7.2 p. 498 1 – 61 every other odd
7.3 p. 507 1 – 5, 13 – 19, 59 63 odd
7.5 p. 520 1, 3, 13
7.6 p. 528 1 – 13 odd
7.7 p. 538 1, 3, 9, 19, 25
- 8.1 p. 559 1 – 25, odd, 35, 41, 45, 57
8.2 p. 570 9 – 17, odd, 23, 27, 29
8.3 p. 579 1, 9, 13, 19
8.5 p. 596 1, 7, 13, 25, 27
8.6 p. 604 1 – 7 odd, 45, 47
- 9.3 p. 648 21 – 35, 39, 41
9.4 p. 656 1, 5, 9, 13, 15, 17, 19, 25, 29 – 43 odd, 47 – 55 odd
9.5 p. 662 5, 7, 11, 13, 17, 19, 21, 31
9.6 p. 669 1, 5, 17, 21, 35, 41
9.7 p. 674 3, 5, 11, 15, 21, 27