

Math 137, Intermediate Algebra  
Three Rivers Community College

Spring 2012 Syllabus, Tuesdays and Thursdays 2:30PM Room E202  
Lou Mercuri lmercuri@trcc.commnet.edu

Text: **Intermediate Algebra, Functions and Authentic Applications** by Jay Lehmann,  
Prentice Hall Publishing, Fourth Edition.

MyMathLab course code: mercuri46306

Week Number	Chapters	Dates
1	1.5-1.6, 2.2	1/19, 1/24
2	2.3, trig handout	1/26, 1/31
3	trig handout, 3.2-3.4	2/7, 2/9
4	4.1-4.3	2/14, 2/16
5	4.4-4.5, 5.2	2/21, 2/23
6	5.3-5.6	2/28, 3/1
7	Review, Exam #1	3/6, 3/8
8	6.1-6.2	3/13, 3/15
9	6.3-6.5	3/27, 3/29
10	6.6, 7.1-7.2	4/3, 4/5
11	7.3-7.5	4/10, 4/12
12	7.6, 8.1-8.2	4/17, 4/19
13	8.3-8.5	4/24, 4/26
14	9.1, 9.5	5/1, 5/3
15	Review, Exam #2	5/8, 5/10

Note: 3/8 and 5/10 are exam dates.

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**Homework assignments:**

- 1.5 page 39: 1, 3, 9, 11, 13, 19, 25, 41, 47, 51, 53, 61, 65, 67
- 1.6 page 48: 1, 7, 9, 11, 13, 33, 39, 41
- 2.2 page 71: 1, 3, 5, 7, 11, 19
- 2.3 page 84: 1-33 odd, 47-55 odd, 57-62, 67-73 odd, 81
- Trigonometry handout, page 10: 1-31 odd
- 3.2 page 123: 1, 3, 9, 13, 21, 25, 29, 31, 37, 39, 49, 55, 57
- 3.3 page 129: 3, 4
- 3.4 page 132: 1, 3, 5, 31, 33, 35, 37
- 4.1 page 173: 1-67 odd, 71, 77, 85, 89
- 4.2 page 182: 1-69 odd
- 4.3 page 190: 1, 3, 5, 11, 19, 21, 55, 57, 65-68, 82
- 4.4 page 198: 1, 5-35 odd
- 4.5 page 207: 1, 5, 9, 11, 15, 17, 21
- 5.2 page 234: 1-39 odd
- 5.3 page 241: 1-53 odd
- 5.4 page 248: 1, 5, 7, 9, 13, 15, 21
- 5.5 page 258: 1-29 odd
- 5.6 page 265: 1-47 odd
- 6.1 page 282: 7, 13, 17, 25, 29, 35-47 odd, 67, 69
- 6.2 page 293: 1-89 every other odd
- 6.3 page 303: 1-59 odd
- 6.4 page 310: 1-71 odd
- 6.5 page 316: 1-81 odd
- 6.6 page 326: 1-17 odd, 57-67 odd, 97-103 odd
- 7.1 page 343: 1-19 odd
- 7.2 page 355: 1, 5, 11, 17, 37, 41, 43, 47, 55, 57
- 7.3 page 368: 3, 7, 9, 11, 17-67 odd
- 7.4 page 376: 1, 7, 9, 13, 17, 23, 27, 35, 39
- 7.5 page 385: 1, 3, 5, 17, 19, 23, 25, 77, 79 and page 412: 15, 17, 18
- 7.6 page 394: 1, 5, 9, 21, 23, 25
- 8.1 page 430: 1-49 every other odd
- 8.2 page 437: 13, 15, 17, 23, 27, 35
- 8.3 page 448: 3, 7, 17, 23, 29, 37
- 8.4 page 456: 3, 7, 9, 27
- 8.5 page 465: 3, 7, 9, 13, 25, 27, 51, 53, 57
- 9.1 page 508: 1-69 odd
- 9.5 page 538: 9, 27, 33, 37, 39

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**Grading:** The student average will be calculated as  $(\text{Exam1} + \text{Exam2} + \text{Max})/3$  where Max is the larger of Exam1 and Exam2. Each exam will be scored out of 100 points and scaled so that the class average is at least 75. Optional extra credit bonus points ranging from 0 to 5 will be added to the student average depending on the number of classes attended, homework, and in class assignments handed in. Each student is expected to be a responsible member of the class being present mentally as well as physically. Otherwise the student forfeits the optional bonus points.

### Statement on Disabilities

If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to contact the Disabilities Counseling Service at 383-5240. To avoid any delay in the receipt of accommodations, you should contact the counselor as soon as possible. Please note that I cannot provide accommodations based upon disability until I have received an accommodation letter from the Disabilities Counselor. Your cooperation is appreciated.

### Class Cancellation

The Three Rivers web site provides a full listing of radio and television stations that alert students to school closings and delays. Go to: [www.trcc.commnet.edu](http://www.trcc.commnet.edu) and click on General Information and Weather Procedures.

### Course Outcomes

1. Factor an algebraic expression using a combination of greatest common factor, difference of two squares, sum or difference of two cubes, and/or trinomial factoring .
2. Use factoring procedures to solve equations and problems.
3. Solve compound linear inequalities of the form  $C < ax + b < d$ . Express answer algebraically, graphically, and using interval notation.
4. Isolate a particular variable in a literal equation.
5. Use quadratic formula to find exact values of a quadratic equation with irrational or imaginary solutions. Approximate the irrational solutions.
6. Solve basic exponential and logarithmic equations.
7. Evaluate basic logarithmic expressions, and convert between logarithmic and exponential form.
8. Solve an exponential equation that requires the use of logarithms.
9. Graph a quadratic function by finding the vertex, x- and y-intercepts.
10. Relate the discriminant in the quadratic formula to the graph of a parabola.
11. Graph a basic exponential or logarithmic function.
12. Know the graphical relationship between exponential and logarithmic functions.
13. Express the slope as a rate of change using appropriate units.
14. Write the equation of a linear function given data. Use functional notation in the answer.
15. Write the equation of an exponential function given data. Use functional notation in the answer.
16. Solve a  $2 \times 2$  and  $3 \times 3$  system of equations.
17. State the domain of linear, quadratic, exponential and logarithmic functions.
18. Evaluate functions using numerical and algebraic values.
19. Identify domain (inputs) and range (outputs) graphically for basic functions.
20. Interpret functional notation in a variety of application problems.
21. Determine if a relation is a function by looking at a graph, table, or equation.
22. Solve a rational equation and check for extraneous solutions.
23. Solve a radical equation that produces a second-degree equation. Check for extraneous solutions.
24. Know and apply the rules of integer and fractional exponents
25. Add, subtract, multiply, divide rational expressions. Reduce the answers.
26. Simplify a complex fraction.
27. Know the meaning of rational exponents and their relationship to radical form.
28. Simplify radical expressions with emphasis on cube roots and lower.
29. Rewrite radical expressions by rationalizing numerator or denominator.
30. Add, subtract, multiply, and divide radical expressions.
31. Solve application problems involving the Pythagorean Theorem.
32. Given a quadratic model, find and interpret the maximum or minimum values, and the intercepts.
33. Solve an application problem involving quadratic equations.
34. Solve an application problem that involves rational expressions.
35. Solve an application problem involving a given exponential or logarithmic model.
36. Solve applications involving linear systems.
37. Find the six trigonometric values of an acute angle
38. Solve triangles using right triangle trig, distinguish between the angle of depression and elevation.
39. Solve applied problems using right triangle trigonometry

