Math 137 Syllabus for Spring 2011
Three Rivers Community College

Course: Intermediate Algebra MAT* K137 T1   **CRN:** 10343
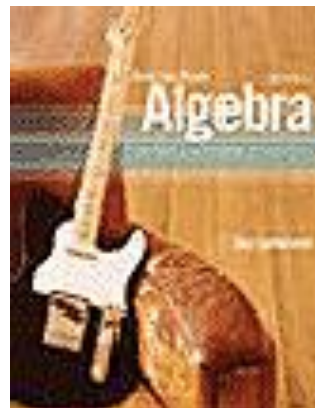**Prerequisites:** Math 095 with a grade of C or better OR Acceptable Placement Score

Instructor: Linda Edmonds
Office: Adjunct Office Suite before class or Classroom (As space is available)
Phone #: (860) 774-8511 ext 1122 (2 -3PM) – leave a message
E-mail: **ledmonds@trcc.commnet.edu** or **Linda.edmonds@ct.gov**
Office Hours: Thursday 6 to 6:30PM or email for an appointment

Text: Intermediate Algebra: Function Approach and Authentic Applications; 4th Edition
by Jay Lehman
Use of Calculators: This course **requires** the use of a **TI83 Plus or TI84 Plus graphing calculator**.
MyMathLab Course Access Code: *edmonds59775*   ALL HW and TESTS will be online.
        (go to www.coursecompass.com to register for my course)
Meeting Time: Thursday 6:30 to 9:15PM   **Room #:** D224

        Course Description: This course continues the development of algebraic skills and concepts. It also touches lightly on right triangle trigonometry. The topics include linear equations, right triangle trigonometry applications, functions and graphs, applications of systems of equations, inequalities, rational expressions and equations, operations on radicals and radical equations, rational exponents, quadratic equations, exponential and logarithmic functions.

        Course Objectives: The objective of this course is to enable the student to understand and to work with, interrelate, and apply algebra governing: solutions of linear equations and inequalities, functions, solutions of systems of equations, rational expressions and equations, radical expressions and equations, solutions of quadratic equations, exponential and logarithmic functions. The student will also develop a basic understanding of Right Triangle Trigonometry.

        Course Evaluation: The course is set up to be worth 1000 points broken down as follows:
        Weekly Attendance   75 points (5 points weekly, must sign in by the first 30 minutes)
        Weekly Group Task   120 points (10 points weekly-non-test weeks- last 15-30 minutes)
        Weekly HW Set   75 points (completion points)
        HW – end of semester   200 points
        Application Project   100 points
        4 Online Tests w/ corrections   230 points
        Final Exam   200 points

        There will be four online tests which must be completed online, printed and corrections submitted by the deadline. A cumulative final exam will be given. **In general, make-up of a missed test is not allowed.** Exceptions to this rule may be made for extraordinary circumstances (grade may be adjusted). Test dates will be announced a week in advance.

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 <60

        Homework: I expect all homework assignments to be completed online with MyMathLab. Weekly assignments will be posted and opened after class. Students are expected to complete assignments weekly but will also be able to return to each assignment to redo until the semester ends.

ONLINE HW GRADE	Time Invested in HW	Completed Assnmts.	HW Average
180 - 200	30+ hours	100%	90%
160 – 180	15 to 29 hours	90%	80%
140 – 160	< 15 hours	80%	70%

Attendance: For the learning process to be effective, you are expected to attend each class regularly, to arrive on time, and to take exams on their assigned dates. If you miss a class, you are still responsible for the material covered, homework assigned, and any announcements. If you will be missing a class for an appropriate reason, please call or email me as soon as possible.

Withdrawal Policy: Students may withdraw, in writing at the Registrar's Office, for any reason up through Monday, May10. No withdrawals will be accepted after Monday, May 10.

Support Services: TASC is the college's free tutoring and academic success center. Sign up a tutor or drop in as needed to the Thames Tutoring Center (860 885-2311) located in room C-117. Peers and peer study groups are also good resources. Meeting with me is another option available.

Academic Integrity Policy: Academic integrity is essential to a useful education. Failure to act with academic integrity severely limits a person's ability to succeed in the classroom and beyond. Furthermore, academic dishonesty erodes the legitimacy of every degree awarded by the College. In this class and in the course of your academic career, present only your own best work; clearly document the sources of the material you use from others; and act at all times with honor. Please see the Three Rivers Community College catalog for the college's Academic Integrity Policy.

Disabilities Statement: Students with disabilities, who require special accommodations and support services, are encouraged to notify Chris Scarborough (860 892-5751)

Cellular Phones and Beepers: Cellular phones and beepers ***must be turned off*** during class. Phones are not to be answered during class. Please see me if extenuating circumstances should arise.

Inclement Weather: To obtain information on delays, changes, or class cancellations due to inclement weather or emergencies call 860 886-0177 or check your email.

NOTE STUDENT PRINT QUOTA (new – Spring 2011)

Student print quota specifics:
Allowed 500 pages per semester
Cannot print documents over 25 pages
Cannot print more than one copy of a document at once

MAT137 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 x 2 and 3 x 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

COURSE SCHEDULE

WEEK	DATE	TOPICS	HW SETS	TEST	Work DUE
1	1/20	Appendix A – Prerequisite info Ch 6 Polynomial Functions			
2	1/27	Right Angle Trig & Applications Graphing Calculator Review Ch 1 Linear Functions			
3	2/3	Ch 2 Modeling Review Exponent Rules			
4	2/10	Linear Inequalities		Online Test #1- Ch 6 & 1	
5	2/17	Ch 3 Systems of Linear Equations			TEST 1 Corrections
6	2/24	Ch 4 Exponential Functions			
7	3/3	Ch 5 Logarithmic Functions		Online Test # 2 – Right Angle Trig Ch 2 & 3	
8	3/10	Ch 5 Logarithmic Functions			TEST 2 Corrections
	3/17	Ch 7 Quadratic Functions			
9	3/24	Spring Break			
10	3/31	Ch 7 Quadratic Functions			
11	4/7	Ch 8 Rational Functions			
12	4/14	NO Class – Project Time		Online Test # 3- Ch 4, 5, 7	
13	4/21	Radicals Ch 9 Radical Functions			TEST 3 Corrections
14	4/28	Ch 9 Radical Functions			
15	5/5	REVIEW		Online Test #4 – Ch 8 & 9	
16	5/12	FINAL EXAM			TEST 4 Correction

Math 137 Course Schedule Content

1.5   Solving Linear Equations Algebraically
1.6   An Intro to Problem Solving
1.8   Formulas and Problem Solving

Appendix E - Right Triangle Trigonometry: Applications

2.5   Equations of the Line

3.2   Linear Inequalities
3.3   Compound Inequalities
            TEST 1

4.1   Solving Systems of Linear Equations in Two Variables
4.2   Solving Systems of Linear Equations in Three Variables
4.3   Systems of Linear Equations and Problem Solving

5.1   Exponents and Scientific Notation
5.2   More Work with Exponents and Scientific Notation
5.3   Polynomials and Polynomial Functions
5.4   Multiplying Polynomials
5.5   The Greatest Common Factor and Factoring by Grouping
5.6   Factoring Trinomials
5.7   Factoring by Special Products
5.8   Solving Equations by Factoring and Problem Solving
            TEST 2

6.1   Rational Functions and Multiplying and Dividing Rational Expressions
6.2   Adding and Subtracting Rational Expressions
6.3   Simplifying Complex Fractions
6.5   Solving Equations Containing Rational Expressions
6.6   Rational Equations and Problem Solving

7.1   Radicals and Radical Functions
7.2   Rational Exponents
7.3   Simplifying Radical Expressions
7.6   Radical Equations and Problem Solving
            TEST 3

8.1   Solving Quadratic Equations by Completing the Square
8.2   Solving Quadratic Equations by the Quadratic Formula
8.3   Solving Equations by Using Quadratic Methods
8.5   Quadratic Functions and Their Graphs
8.6   Further Graphing of Quadratic Functions

9.3   Exponential Functions
9.4   Logarithmic Functions
9.5   Properties of Logarithms
9.6   Common Logarithms, Natural Logarithms, and Change of Base
9.7   Exponential and Logarithmic Equations and Applications
            FINAL EXAM – CUMULATIVE

MAT137 Course Outcomes

TEST #1 -

1. Factor an algebraic expression using a
    1. greatest common factor,
    2. difference of two squares,
    3. sum or difference of two cubes,
    4. trinomial factoring .
    5. 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
    1. equations and
    2. problems.
3. Solve compound linear inequalities of the form C<ax + b <d.
    1. Express answer algebraically,
    2. graphically, and
    3. using interval notation.
4. Isolate a particular variable in a literal equation.
5. Use quadratic formula to find exact values of a quadratic equation
    1. with irrational or imaginary solutions.
    2. Approximate the irrational solutions.
6. Solve basic exponential and logarithmic equations.
7. Evaluate basic logarithmic expressions, and
    1. convert between logarithmic and exponential form.
8. Solve an exponential equation that requires the use of logarithms.
9. Graph a quadratic function
    1. by finding the vertex,
    2. 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.
    1. Use functional notation in the answer.
15. Write the equation of an exponential function given data.
    1. Use functional notation in the answer.
16. Solve a system of equations
    1. 2 x 2
    2. 3 x 3
17. State the domain of
    1. linear,
    2. quadratic,
    3. exponential and
    4. logarithmic functions.
18. Evaluate functions
    1. using numerical and
    2. 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
    1. by looking at a graph,
    2. table, or
    3. equation.
22. Solve a rational equation and
    1. check for extraneous solutions.
23. Solve a radical equation that produces a second-degree equation.
    1. Check for extraneous solutions.
24. Know and apply the rules of
25. integer and fractional exponents

26. Add, subtract, multiply, divide rational expressions. Reduce the answers.
27. Simplify a complex fraction.
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