Syllabus for Spring 2012
Three Rivers Community College
Intermediate Algebra/Math 137/CRN 11626
Monday, Wednesday, Friday
9:00 to 9:50 a.m.

Adjunct Instructor: Sue Butler
Email: sueqbutler@yahoo.com
Office hours: by appointment

Required Materials:

- *Intermediate Algebra: Functions & Authentic Applications, 4th edition*, by Jay Lehmann.
- Notebook or binder
- Scientific Calculator or any TI-83 Plus, TI-84, (see Appendix B)

Grading Policy:

Half of your grade for the semester will be the average of three in-class exams; tentatively scheduled for Feb. 22, April 9, and May 14.

The other half of your grade will be the average of take-home assignments and in-class quizzes. The lowest grade will be dropped.

Grade Equivalents:

		A	93 - 100	A-	90 – 92
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	59 or lower	I	incomplete (see below)		

Textbook assignments:

- Textbook assignments (posted below) will not be collected or graded. It is assigned to assist you in your mastery of the concepts discussed in class.

- Check your work. **Do one problem at a time** and **check your answer** before proceeding to the next problem. If you have made a mistake try to figure out what went wrong. Click on "do a similar exercise" on MyMathLab as many times as needed to master a skill.

- Make note of any difficult problems that can be reviewed at our next class meeting. **Each class session will open with a "question and answer" period**. This is **YOUR** opportunity for extra help with difficult homework problems.

"I hear and I forget,
I see and I understand,
I do and I learn."-Confucius

Translation: You have to **do** the math to **learn** the math!

Math 137 Readiness Check .

Appendix A, p. 626 – 634, answers p. 692
Try A4, A5, and A6 on your calculator to test your calculator skills.
In class review: A10, p. 632
A11, p. 633

Appendix B, Using a TI-83 or TI-84 Graphing Calculator, p. 635

Chapter One homework

.

1.6 p. 48 (1, 5, 7 – 14, 15, 19, 21, 26, 31, 35, 39, 41)
Ch. 1 Review p. 54 (38, 39 – 43)
Ch. 1 Test p. 55 (21, 22)

Chapter Two homework

2.1 p. 63 (1, 3)
2.2 p. 71 (pick one: 3, 5, or 7), do 17.
2.3 P. 84 (1, 7, 11, 15, 21, 25, 29, 33, 40, 43-51 odd, 57, 58, 79, 83 abc)

Trigonometry

Handout
Email me for additional materials, and I will send them to you in an attachment.

Chapter Three homework

3.2 p. 123 (3, 9, 17, 23, 37, 41, 45)
3.3 p. 129 (13, 15)

Chapter Four homework

4.1 p. 173 (1 – 91) every third odd
4.2 p. 182 (1 – 69) every other odd
4.3 p. 190 (1, 7, 11, 17, 19, 23, 37-51 every other odd
4.4 p. 198 (3, 5-19 every other odd, 27, 29, 41, 43)

Chapter Five homework

5.2 p. 234 (1, 3, 9, 11, 17, 19, 29, 35, 43-57 odd, 63-67 odd)
5.3 p. 241 1 – 63 odd
5.4 p. 248 1, 3, 5
5.5 p. 258 1 -29 odd
5.6 p. 265 1 – 47 every other odd

*Chapter Six homework

6.1 p. 282 7, 11, 17, 19, 23, 29, 41 – 55 odd, 59-65 odd, 67, 73
6.2 p. 293 3, 7, 9, 13, 17, 23, 27, 33, 37, 39, 41, 47, 49, 51, 55, 59
6.3 p. 303 1, 7, 15, 21, 27, 33, 39, 45, 51, 57
6.4 p. 310 1, 5, 9, 11, 13, 19, 25, 31, 39, 45, 49
6.5 p. 316 1, 5, 9, 13, 17, 19, 21, 27, 31, 35, 43, 47, 51, 57, 61, 65, 69, 73, 77, 81
6.6 p. 326 1, 7, 13, 19, 25, 31, 39, 45, 49, 51, 63, 65, 67

* Chapter Six is review material from the prerequisite courses in Algebra: polynomials, factoring, and solving quadratic equations with factoring. A review packet will be handed out in class.

Chapter Seven homework

7.1 p. 343 1, 5, 9, 15, 17, 21, 23, 29
7.2 p. 355 11, 17, 21, 47
7.3 p. 368 1 – 17 odd, 21, 25, 29, 33, 39, 57-67 odd
7.5 p. 385 5, 11, 27, 29, 35, 43, 51, 55, 63, 65, 67, 77
7.6 p. 394 1, 3, 11, 17, 21, 25

Chapter Eight homework

8.1 p. 430 5 – 47 e.o.o.
8.2 p. 437 1 – 33 e. 3. o.
8.3 p. 448 1 – 41 e.3.o.
8.5 p. 465 1 – 21 e.o.o.
8.6 p. 475 1, 3

Chapter Nine homework

9.1 p. 508 1 – 69 eoo
9.2 p. 516 1 – 69 eoo
9.5 p. 538 1 – 37 eoo

Absence:

If you are absent on the day of an exam you will have until the ***next regularly scheduled class session*** to contact me and make arrangements to take your exam.

Resources:

- **TASC (Tutoring Center)** is located in room C-117. TASC provides free one-to-one tutoring. Also, TASC's portion of the school's website has many links to other online resources; go to the TASC homepage at htt;://www.trcc.comment.edu/ed_resources/task/index.htm and follow thelink to "online Resources."
- **Each other**: exchange contact information with classmate(s).

Classroom Policy:

I respect you and expect respect from you. Being a mature college student entails responsibility. This means you are responsible for yourself, your education, your assignments, your behavior, your attitude, your timeliness, and your contributions to the classroom atmosphere. I expect all students to be prompt, attentive, prepared, supportive of their classmates, and contribute to a positive classroom atmosphere.

Cell phone Use: Please turn off the ringer before the start of each class.

about MyMathLab…

MyMathLab is a website that is available to you **24/7.** MyMathLab is not required to successfully complete this course; however it is ***strongly recommended*** that you take advantage of the opportunities available to you only through MyMathLab.

I will post practice exams and homework exercises on MML.

MyMathLab contains an online version of your textbook, links to video clips, practice exercises, animations, and unlimited tutorial exercises.

MyMathLab Registration instructions:

The codes you need to register online with MyMathLab are provided in **new** textbooks in the student registration packet, **OR** for a separate fee using a credit card. If you have previously enrolled in MML for the same course and the same textbook, login like usual, and on the course banner page click on "enroll in another course."

Go to the website: www.coursecompass.com, and under "Student" click on "register."

You will be prompted to enter the code that comes with the packet. Please record your choices for your username and password. You will need them each time you log into MyMathLab. Your home computer may need to install "installation wizard", and "allow pop-ups on this site only". The zip code for Norwich is 06360.

When you return to the website and have logged in, click on our course name to proceed to the "homework" menu.

Our Course Code is: **butler38057**

Please be sure to log in to the correct course.

"Incomplete": College policy states: "An incomplete (I) is a temporary grade assigned to a student who does not complete the requirements of a course in the time allowed and who received a written time extension from the instructor. The incomplete (I) must be resolved by the end of the 10th week of the next academic semester or it automatically converts to an F."
Any student who wishes to pursue an incomplete must meet with me before the last week of class for approval. If approval is granted I will provide the incomplete agreement to sign and file with the Academic Dean.

Withdrawal Policy: A "drop or withdrawal" from the course will be accepted through the 10th week of classes in accordance with the designated withdrawal deadlines.

Students need to fill out the special withdrawal form available at the registrar's office: Withdrawals are processed only through the Registrar's Office at (860) 892-5756 or the Subase at (860) 445-5575. Students who do not withdraw, but stop attending will be assigned an "F".

Disabilities Statement: 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 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 accommodations based upon disability until I have received an accommodation letter from the disabilities counselor.

Calculator: The TI-83 or TI-84 is required. You may want to use the TI-89 if you are taking math courses beyond intermediate algebra. Any standard calculator will work also.

General Tips for Success

Attend all class periods Please be prompt. Excessive tardiness is disruptive. Make sure your work hours do not conflict with the course schedule. Have a back up plan for emergencies: car trouble, illness, child care.

Come to class prepared: bring a notebook, pencil or pen, and textbook to every class.

Do your homework, "practice makes perfect", especially algebra!

Check your work. Do one problem at a time and check your answer before proceeding to the next problem. If you have made a mistake try to figure out what went wrong. Then correct your mistake. Try to rework the problem from the beginning. Click on "do a similar exercise" on MyMathLab as many times as needed to master a skill.

Learn from your mistakes. Don't skip steps. DO NOT try to do it all 'in your head'. Skipping steps will ultimately waste your time from making simple errors.

Ask questions! My experience tells me that if you have a question, then at least 5 other classmates have the same question. There is no such thing as a stupid question.

Take notes. Jot down notes as you go through the MyMathLab instruction segments, take notes from the board, do your homework assignments *neatly*; use your notebook to work out the online assignments and tutorials.

Use class time wisely. Visiting other websites or conducting personal business during class time is prohibited.

Best wishes for your success in mathematics!

Course Outline:

We will cover the following sections of the text:

Chapter 1. Linear Equations and Linear Functions
- 1.6 Functions

Chapter 2. Modeling with Linear Functions
- 2.1 Using Lines to Model Data
- 2.2 Finding Equation of Linear Models
- 2.3 Function Notation and Making Predictions

Trigonometry (pdf file)

Chapter 3. Systems of Linear Equations
- 3.2 Using Substitution and Elimination to Solve Systems
- 3.3 Using Systems to Model Data

Chapter 4 Exponential Functions
- 4.1 Properties of Exponents
- 4.2 Rational Exponents
- 4.3 Graphing Exponential Functions
- 4.4 Finding Equation of Exponential Functions
- 4.5 Using Exponential Functions to Model Data

Chapter 5. Logarithmic Functions
- 5.2 Logarithmic Functions
- 5.3 Properties of Logarithms
- 5.4 Using the Power Property with Exponential Models to Make Predictions
- 5.5 More Properties of Logarithms
- 5.6 Natural Logarithms

Chapter 6 Polynomial Functions
- 6.1 Adding and Subtracting Polynomial Expressions and Functions
- 6.2 Multiplying Polynomial Expressions and Functions
- 6.3 Factoring Trinomials of the Form $x^2 + bx + c$
- 6.4 Factoring Polymonials
- 6.5 Factoring Special Binomials
- 6.6 Using Factoring to Solve Polynomial Equations

Chapter 7. Quadratic Functions
- 7.1 Graphing Quadratic Functions in Vertex Form
- 7.2 Graphing Quadratic Functions in Standard Form

7.3 Using the Square Root Property
7.5 Using the Quadratic Formula
7.6 Solving Systems of Linear Equations in Three Variables
7.7 Finding Quadratic Model

Chapter 8 Rational Functions

8.1 Finding the Domains of Rational Functions
8.2 Multiplying and Dividing Rational Expressions
8.3 Adding and Subtracting Rational Expressions
8.5 Solving Rational Equations
8.6 Modeling with Rational Functions

Chapter 9. Radical Functions

9.1 Simplifying Radical Expressions
9.2 Adding, Subtracting, Multiplying Radical Expressions
9.5 Solving Radical Equations

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