

Syllabus for Spring 2014
Three Rivers Community College

Intermediate Algebra Math 137/CRN10390
Tuesday 6-8:45 pm
Jan 28th – May 20th

Adjunct Instructor: Dawn Mallory
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Required Materials:

- *Elementary and Intermediate Algebra 4th Edition*, Bittinger, Ellenbogen & Johnson
- Notebook or binder
- Scientific Calculator or any TI-83 Plus, TI-84, (see Appendix B)

Grading Policy:

Your grade for the semester will be calculated using percents from quizzes, tests and homework.

Tests	70%
Quizzes	10%
Final	15%
Homework	5%

Grade Equivalents:

A	93 - 100	C	73 – 76
A-	90 – 92	C-	70 – 72
B+	87 – 89	D+	67 – 69
B	83 – 86	D	63 – 66
B-	80 – 82	D-	60 – 62
C+	77 – 79	F	59 or lower
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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. If you can't correct, then continue on. Do not do again and again and get overloaded and frustrated. Put that number on a piece of paper or circle it and I will go over it.
- 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!

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 http://www.trcc.coment.edu/ed_resources/task/index.htm and follow the link 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. IF you have one of those cell phones [like I do that has a loud buzz when on vibrate then turn it off]

“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:

<p>Lesson 1</p> <p>3.2 Graphing Equations</p> <p>3.3 Linear Equations and Intercepts</p> <p>Objectives:</p> <ol style="list-style-type: none">1. Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and using technology [Section 3.2 text objective: 2] [Section 3.3 text objectives: 2,3]2. Determine identifying characteristics of linear functions [Section 3.2 text objective: 1] [Section 3.3 text objectives: 1,4]3. Model and solve real world applications with linear functions and systems of equations [Section 3.2 text objective: 3]	<p>p. 182/ 21 – 53 p. 191/ 25 – 61</p> <p>p. 182/ 7 – 19 p. 191/ 7 – 19, 63 – 81</p> <p>p. 183/ 73 – 81</p>
<p>Lesson 2</p> <p>3.5 Slope</p> <p>3.6 Slope Intercept Form</p> <p>Objectives:</p> <ol style="list-style-type: none">4. Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and using technology [Section 3.6 text objectives: 2,3]5. Determine identifying characteristics of linear functions [Section 3.5 text objectives: 1,2] [Section 3.6 text objectives: 1,4]6. Model and solve real world applications with linear functions and systems of equations [Section 3.5 text objective: 3]	<p>p. 223/ 37 – 41, 45, 49 - 61</p> <p>p. 208/ 11 – 59 every other odd p. 223/ 19 – 33, 65 – 75, 85, 87</p> <p>p. 211/ 61 - 71</p>

<p>Lesson 3 3.7 Point-Slope Form</p> <p>Objectives:</p> <p>7. Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and using technology [Section 3.7 text objectives: 1,2]</p> <p>8. Model and solve real world applications with linear functions and systems of equations [Section 3.7 text objective: 3]</p>	<p>p. 238/ 13 - 29 every other odd p. 238/ 33 – 69 every other odd</p> <p>p. 239/ 81 - 93</p>
<p>Lesson 4 3.8 Functions</p> <p>Objectives:</p> <p>9. Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and using technology [Section 3.8 text objectives: 1,2,3]</p> <p>10. Determine identifying characteristics of linear functions [Section 3.8 text objective: 1]</p> <p>11. Model and solve real world applications with linear functions and systems of equations [Section 3.8 text objective: 4]</p>	<p>p. 255/ 9 – 19, 53 – 57, 81, 85, 95, 99</p> <p>p. 256/ 21 - 51</p> <p>p. 258/ 101 - 111</p>

<p>Lesson 5</p> <p>5.3 Polynomials and Polynomial Functions</p> <p>6.1 Intro to Polynomial Factorizations and Equations</p> <p>Objectives:</p> <p>12. Provide multiple representations of quadratic functions or expressions by hand and using technology [Section 5.3 text objective: 6] [Section 6.1 text objectives: 3,4]</p> <p>13. Determine identifying characteristics of quadratic functions or expressions (e.g., factors) [Section 5.3 text objectives: 1,2,3]</p> <p>14. Evaluate, simplify, and perform operations on quadratic functions or expressions [Section 5.3 text objectives: 4,5]</p> <p>15. Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically [Section 6.1 text objectives: 1,2]</p> <p>16. Solve real world applications involving quadratic functions [Section 6.1 text objective: 5]</p>	<p>p. 362/ 91, 95 p. 435/ 45 – 89 every other odd</p> <p>p. 359/ 9 – 37 every other odd</p> <p>p. 360/ 41 – 53 every other odd, 55 – 69, 73, 79</p> <p>p. 435/ 23 – 39 every other odd</p> <p>p. 436/91 - 101</p>
<p>Lesson 6</p> <p>6.2 Trinomials: x^2</p> <p>6.3 Trinomials: ax^2</p> <p>Objectives:</p> <p>17. Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and using technology [Section 6.2 text objective: 1] [Section 6.3 text objective: 1]</p> <p>18. Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically [Section 6.2 text objectives: 2,3] [Section 6.3 text objectives: 2]</p>	<p>p. 445/ 9 – 41 every other odd p. 455/ 9 – 33 every other odd</p> <p>p. 446/ 47 – 65 p. 456/ 57, 61 - 69</p>

<p>Lesson 7</p> <p>6.4 Difference of Squares</p> <p>6.5 Sums or Differences of Cubes</p> <p>Objectives:</p>	
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<p>19. Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and using technology [Section 6.4 text objective: 2] [Section 6.5 text objective: 1]</p> <p>20. Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically [Section 6.4 text objective: 2] [Section 6.5 text objective: 1]</p>	<p>p. 465/ 41 – 53, 59 p. 470/ 11 – 29</p> <p>p. 465/ 87, 89, 103 p. 470/ 47, 49</p>
<p>Lesson 8 6.7 Applications of Polynomial Equations</p> <p>Objectives:</p> <p>21. Solve real world applications involving quadratic functions [Section 6.7 text objectives: 1,2]</p> <p>Lesson 9 7.1 Rational Expressions and Functions 7.2 Multiplication and Division NOTE: Include discussion of division of a polynomial by a monomial: see section 5.8</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Provide multiple representations of simple rational functions or expressions by hand and using technology [Section 7.1 text objective: 4] • Determine identifying characteristics of rational functions or expressions [Section 7.1 text objectives: 1,3] • Evaluate, simplify, and perform operations on simple rational functions or expressions [Section 7.1 text objective: 2] [Section 7.2 text objective: 1,2] <p>Lesson 10 7.3 Addition, Subtraction and LCD 7.4 Addition and Subtraction with Unlike Denominators</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Evaluate, simplify, and perform operations on simple rational functions or expressions [Section 7.3 text objectives: 1, 2, 3] [Section 7.4 text objectives: 1, 2] <p>Lesson 11 7.6 Rational Equations</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Solve simple rational equations algebraically and/or graphically [Section 7.6 text objective: 1] 	<p>p. 486/ 5 – 35</p> <p>p. 512/ 79 - 83</p> <p>p. 511/ 13 – 19</p> <p>p. 511/ 9 – 11, 23 – 33, 39 – 47, 57, 59, 61 p. 518/ 7 – 21, 45 – 55</p> <p>p. 520/ 5 – 21, 434 – 49 p. 534/ 5 – 41</p> <p>p. 553/ 11 – 39, 49, 51, 55</p>

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<p>Lesson 12</p> <p>7.7 Applications using Rational Equations</p> <p>7.8 Formulas</p> <p>Objectives:</p> <ul style="list-style-type: none"> Solve real world applications involving rational functions [Section 7.7 text objectives: 1, 2, 3] [Section 7.7 text objective: 1] 	<p>p. 565/ 7 – 35</p> <p>p. 578/ 13, 15, 19, 25, 29</p>
<p>Lesson 13</p> <p>10.1 Radical Expressions, Functions and Models</p> <p>Objectives:</p> <ul style="list-style-type: none"> Provide multiple representations of simple radical functions or expressions by hand and using technology, with primary emphasis on square root [Section 10.1 text objective: 1] Determine identifying characteristics of radical functions or expressions [Section 10.1 text objectives: 1,5] Evaluate, simplify, and perform operations on simple radical functions or expressions [Section 10.1 text objectives: 1,2] 	<p>p. 705/ 9 – 27</p> <p>p. 706/93, 105</p> <p>p. 708/ 33 – 37, 39 – 45, 69 – 73</p>
<p>Lesson 14</p> <p>10.2 Rational Numbers as Exponents</p> <p>Objectives:</p> <ul style="list-style-type: none"> Provide multiple representations of simple radical functions or expressions by hand and using technology, with primary emphasis on square root [Section 10.2 text objective: 3] Determine identifying characteristics of radical functions or expressions [Section 10.2 text objectives: 1,2] Evaluate, simplify, and perform operations on simple radical functions or expressions [Section 10.2 text objective: 4] 	<p>p. 715/ 77 – 87</p> <p>p. 714/ 9 – 61 every other odd</p> <p>p. 715/ 91 – 107 every other odd</p>

<p>Lesson 15 10.3 Multiplying Radical Expressions</p> <p>Objectives:</p> <ul style="list-style-type: none"> Evaluate, simplify, and perform operations on simple radical functions or expressions [Section 10.3 text objectives: 1,2,3] 	<p>p. 721/ 7, 13, 17, 23, 27, 35, 47, 57, 59, 63, 67</p>
<p>Lesson 16 10.5 Expressions Containing Several Radical Terms</p> <p>Objectives:</p> <ul style="list-style-type: none"> Evaluate, simplify, and perform operations on simple radical functions or expressions [Section 10.5 text objectives: 1, 2] 	<p>p. 735/ 7, 13, 17, 19, 31, 33, 35, 41, 45, 51</p>
<p>Lesson 17 10.6 Solving Radical Equations 10.7 Other Applications</p> <p>Objectives:</p> <ul style="list-style-type: none"> Solve simple radical equations algebraically and/or graphically [Section 10.6 text objective: 1] Solve real world applications involving radical functions [Section 10.7 text objective: 1] 	<p>p. 744/ 7 – 13, 21, 27</p> <p>p. 754/ 13 – 27, 45</p>
<p>Lesson 18 10.8 The Complex Numbers</p> <p>Objectives:</p> <ul style="list-style-type: none"> Identify imaginary numbers [Section 8.7 text objective: 1] 	<p>p. 763/ 9 – 19</p>
<p>Lesson 19 11.1 Quadratic Equations</p> <p>Objectives:</p> <ul style="list-style-type: none"> Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically [Section 11.1 text objectives: 1,2] Solve real world applications involving quadratic equations and functions [Section 11.1 text objective: 3] 	<p>p. 784/ 13 – 31, 37, 41, 57, - 61, 65 – 69, 71</p> <p>p. 784/ 81, 85, 87</p>
<p>Lesson 20 11.2 The Quadratic Formula</p>	

<p>Objectives:</p> <ul style="list-style-type: none"> Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically [Section 11.2 text objectives: 1, 2] <p>Lesson 21</p> <p>11.3 Studying Solutions to Quadratic Equations</p> <p>11.4 Applications of Quadratic Equations</p> <p>Objectives:</p> <ul style="list-style-type: none"> Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically [Section 11.3 text objective: 1] Solve real world applications involving quadratic equations and functions [Section 11.4 text objective: 1] <p>Lesson 22</p> <p>11.6 Quadratic Functions and Their Graphs</p> <p>11.7 More About Graphing Quadratic Functions</p> <p>Objectives:</p> <ul style="list-style-type: none"> Provide multiple representations of quadratic functions or expressions by hand and using technology [Section 11.6 text objectives: 1,2,3] [Section 11.7 text objectives: 1,2] Determine identifying characteristics of quadratic functions or expressions (e.g., factors) [Section 11.6 text objectives: 1,2,3] [Section 11.7 text objectives: 1,2] Evaluate, simplify, and perform operations on quadratic functions or expressions [Section 11.6 text objectives: 1,2,3] [Section 11.7 text objectives: 1,2] 	<p>p. 791/ 7 – 29, 33, 39, 43, 45</p> <p>p. 796/ 7 – 17</p> <p>p. 801/ 1 – 11, 35, - 41</p> <p>p. 820/15 – 67 every other odd p. 830 9 – 41 every other odd</p>
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<p>Lesson 23 12.2 Exponential Functions</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Provide multiple representations (e.g., tables, graphs, symbols) of exponential functions or expressions by hand and using technology [Section 12.2 text objective: 1] • Determine identifying characteristics of exponential functions or expressions [Section 12.2 text objective: 1] • Identify real world applications involving exponential functions and solve graphically [Section 12.2 text objective: 3] 	<p>p. 874/ 11 – 29, 45 – 49</p> <p>p. 874/ 51 - 59</p>
<p>Lesson 24 12.6 Solving Exponential Equations</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Solve simple exponential equations algebraically and/or graphically [Section 10.7 text objective: 1 solve by graphing] 	<p>p. 908/ 9 - 25</p>
<p>Lesson 25 12.7 Applications of Exponential Equations</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Identify real world applications involving exponential functions and solve graphically [Section 12.7 text objective: 2 solve by graphing] 	<p>p. 920/ 1 – 9, 21</p>

At the completion of MAT*137, the student will be able to do the following —

Linear Functions

- 1) Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and/or using technology
- 2) Determine identifying characteristics of linear functions
- 3) Model and solve real world applications with linear functions (e.g., car depreciation) and systems of linear equations

Quadratic Functions and/or Expressions

- 1) Provide multiple representations of quadratic functions or expressions by hand and/or using technology
- 2) Determine identifying characteristics of quadratic functions or expressions (e.g., factors)
- 3) Evaluate, simplify, and perform operations on quadratic functions or expressions
- 4) Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically

- 5) Solve real world applications involving quadratic equations and functions

Exponential Functions and/or Expressions

- 1) Provide multiple representations (e.g., tables, graphs, symbols) of exponential functions or expressions by hand and/or using technology
- 2) Determine identifying characteristics of exponential functions or expressions
- 3) Evaluate, simplify, and perform operations on exponential functions or expressions
- 4) Identify real world applications involving exponential functions and/or solve graphically

Rational Functions and/or Expressions

- 1) Provide multiple representations of simple rational functions or expressions by hand and/or using technology
- 2) Determine identifying characteristics of rational functions or expressions
- 3) Evaluate, simplify, and perform operations on simple rational functions or expressions
- 4) Solve simple rational equations algebraically and/or graphically
- 5) Solve real world applications involving rational functions

Radical Functions and/or Expressions

- 1) Provide multiple representations of simple radical functions or expressions by hand and/or using technology, with primary emphasis on square root
- 2) Determine identifying characteristics of radical functions or expressions
- 3) Evaluate, simplify, and perform operations on simple radical functions or expressions
- 4) Solve simple radical equations algebraically and/or graphically
- 5) Solve real world applications involving radical functions
- 6) Identify imaginary numbers

Mathematical Practices

- 1) Make sense of problems and persevere in solving them.
- 2) Reason abstractly and quantitatively.
- 3) Construct viable arguments and critique the reasoning of others.
- 4) Model with mathematics.
- 5) Use appropriate tools strategically.
- 6) Attend to precision.
- 7) Look for and make use of structure.
- 8) Look for and express regularity in repeated reasoning