SYLLABUS

MAT137 – INTERMEDIATE ALGEBRA
CRN #10374   Three Rivers Community College, Norwich, Connecticut 06360

INSTRUCTOR INFORMATION
Mrs. Mary Anne Stewart, Adjunct Instructor
OFFICE: Adjunct Faculty Office (on the 1st classroom floor Mohegan)
OFFICE HOURS: Monday and Wednesday from 11:30 a.m. – 12:20 p.m. and by appointment. Contact your instructor by phone, E-Mail, Vista, or before or after class to set up an appointment.
PHONE (VOICE MAIL): (860) 886-0177, ext. 2114 – Leave your name, phone number, brief message and the best day and time for a return call.
E-MAIL: mstewart@trcc.commnet.edu or logon to http://vista.ctdlc.org and use the Mail feature

COURSE DESCRIPTION
This course continues the development of algebraic skills and concepts. The topics include linear equations, functions and graphs, applications of systems of equations, inequalities, rational expressions and equations, operations on radicals and rational exponents, quadratic equations, exponential and logarithmic functions.

COURSE INFORMATION
Location: Mohegan Campus, Room 302
Days/Times: Mon. & Wed., 12:30 p.m.1:50 p.m.
Prerequisite: Acceptable placement score or MAT095 with a “C#” grade or better. A thorough knowledge of basic algebra is needed for this course.

REQUIRED TEXT

SUPPLIES
• Pencils and erasers. NO pens. Only tests completed in pencil will be accepted,
• Paper for homework and taking notes in class,
• One (1) three-ring notebook,
• One set of tabbed dividers or similar to create sections in your notebook (sticky notes),
• One 6” or 12” ruler,
• A graphing calculator is required. Suggested model: Texas Instrument calculator (TI83).
COURSE OUTLINE, ASSIGNMENTS, SCHEDULE, CONTENT and OUTCOMES
See attached sheets.

METHOD OF EVALUATION, GRADES, and ATTENDANCE
EVALUATION: The student’s grade for the course will be determined by calculating the arithmetic average of four (4) tests. Each test will be graded based on a maximum of 100 points each. Students are expected to take the tests on the scheduled dates. Make-up tests will be allowed only for extraordinary circumstances (e.g., death in the family, illness, religious observances, etc.) and only if the student contacts the instructor prior to the date and time of the test.

ATTENDANCE: Students are expected to arrive for class on time and to remain for the duration of the class meeting. It is the student’s responsibility to request any missed work or assignments before the next class. Students should notify the instructor of any absence(s).

GRADING SYSTEM (Letter Grades and Corresponding Numerical Grades):
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 (below 60)

HOMEWORK
Homework will be assigned at the end of each class. Students are expected to do homework regularly and to work on homework outside of class time. Homework will not be collected or graded.

CLASSROOM ETIQUETTE
Respect for and courtesy toward one another are the rules in this classroom. Any student who is disrespectful or disruptive will be asked to leave the classroom. No food or drink in class.

ACADEMIC INTEGRITY POLICY
Academic integrity is essential to a useful education. Failure to act with academic integrity severely limits a person's ability to success 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.

COLLEGE WITHDRAWL POLICY
Students may withdraw, in writing at the Registrar’s Office, for any reason until:
March 30 Last day to withdraw from classes without instructor’s signature
April 23 Last day to withdraw from classes with instructor or advisor signature

DISABILITIES STATEMENT
Students with hidden or visible disabilities who may require special accommodations and support services are encouraged to notify the instructor and Chris Scarborough, (860) 892-5751, who is coordinating services to students with disabilities, during the first two weeks of class.

CELLULAR PHONES AND BEEPERS
Students are notified that cellular phones, beepers and similar are allowed in class if they are turned off or turned to a silent mode. Phones are NOT to be answered in class. When there are extenuating circumstances that require a student be available by such a device, the student should speak to the instructor prior to class, so that together they can arrive at an agreement.
COURSE CONTENT AND OUTCOMES
Mrs. Mary Anne Stewart, Adjunct Instructor

CHAPTER 1: Real Numbers, Algebraic Expressions, and Equations
Upon completion, student must be able to:
1. Solve linear equations algebraically,
2. Apply the steps for problem solving, and
3. Solve a formula for a specified variable and use formulas to solve problems.

APPENDIX E: Right Triangle Trigonometry, Applications
Upon completion, student must be able to:
1. Find the value of trigonometric functions of acute angles,
2. Use the Complementary Angle Theorem, and
3. Solve right triangles and applied problems.

CHAPTER 2: Graphs and Functions
Upon completion, student must be able to:
1. Write the equation of a line using slope-intercept form and point-slope form,
2. Write equations of vertical, horizontal, parallel and perpendicular lines, and
3. Graph a line using its slope and y-intercept.

CHAPTER 3: Equations and Inequalities
Upon completion, student must be able to:
1. Solve linear inequalities using the addition and multiplication properties of inequality,
2. Solve problems that can be modeled by linear inequalities, and
3. Find the intersection and union of two sets and solve compound inequalities.

CHAPTER 4: Systems of Equations
Upon completion, student must be able to:
1. Solve a system of linear equations in two variables by graphing, substitution, and elimination,
2. Solve a system of three linear equations in three variables, and
3. Solve problems: a) that can be modeled by a system of two and three linear equations, and b) with cost and revenue functions.

CHAPTER 5: Exponents, Polynomials, and Polynomial Functions
Upon completion, student must be able to:
1. Use the product and quotient rules for exponents, use the power rules for exponents, and use exponent rules and definitions to simplify exponential expressions,
2. Convert between scientific and standard notation and compute using scientific notation,
3. Identify, define, add, subtract, and multiply polynomials; identify and multiply binomials,
4. Multiply the sum and difference of two terms and evaluate polynomial functions,
5. Identify the GCF, factor out the GCF, and factor polynomials by grouping,
6. Factor trinomials and factor by substitution,
7. Factor by special products, and
8. Solve polynomial equations by factoring and problem solving.

CHAPTER 6: Rational Expressions
Upon completion, student must be able to:
1. Find the domain, and simplify, multiply, and divide rational expressions,
2. Use rational functions in applications,
3. Add and subtract rational expressions with common and unlike denominators,
4. Simplify complex fractions and expressions with negative exponents, and
5. Solve equations containing rational expressions and problem solving.

CHAPTER 7: Rational Exponents, Radicals, and Complex Numbers
Upon completion, student must be able to:
1. Evaluate radicals and radical functions,
2. Understand rational exponents and use rules for exponents to simplify expressions,
3. Simplify and solve radical expressions, and
4. Problem solving.

CHAPTER 8: Quadratic Equations and Functions
Upon completion, student must be able to:
1. Solve quadratic equations by completing the square and by the quadratic formula,
2. Solve equations by using quadratic methods, and
3. Graph quadratic functions of special forms.

CHAPTER 9: Exponential and Logarithmic Functions
Upon completion, student must be able to:
1. Solve and graph exponential functions,
2. Use logarithmic notation, Write and solve logarithmic equations, and identify and graph logarithmic functions,
3. Use properties of logarithms,
4. Identify and evaluate common logarithms and natural logarithms, and
5. Solve exponential and logarithmic equations.
COURSE OUTLINE, HOMEWORK & TEST SCHEDULE
Mrs. Mary Anne Stewart, Adjunct Instructor

This schedule is subject to change at any time. Pay attention to announcements in class and refer to our course schedule at http://vista.ctdlc.org

Refer back to the chapter for vocabulary words, examples of problems, helpful hints, study skills reminders, the shaded information boxes, discover the concepts, and the chapter highlights at the end of the chapter. Also refer to your class notes and problems worked during class. Work with other students. Ask for help!

<table>
<thead>
<tr>
<th>DATES</th>
<th>TOPICS, REVIEWS, TESTS</th>
<th>HOMEWORK (due next class)</th>
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<tbody>
<tr>
<td>Mon., 1/22</td>
<td>Intro to Course,</td>
<td>Look through the textbook and course materials; Read Sec. 1.1-1.5</td>
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<td>1.1 – Tips for Success in Mathematics #1-19 all</td>
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<td>1.2 – Algebraic Exp, Sets of Numbers #1-91 EOO</td>
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<td>1.3 – Operations on Real Numbers #1-41 odd, 43-91 EOO</td>
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<td>1.4 – Properties of Real Numbers #1-105 EOO</td>
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<td>1.5 – Solving Linear Equations Algebraically #1-77 odd</td>
<td>Read Sec. 1.6 and 1.8</td>
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<td>For the next class</td>
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<td>Wed., 1/24</td>
<td>1.6 – An Introduction to Problem Solving #1-61 odd</td>
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<td>1.8 – Formulas and Problem Solving #1-23 odd, 29-49 odd</td>
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<td>Handout</td>
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<td>Mon., 1/29</td>
<td>HANDOUT: Right Triangle Trigonometry</td>
<td>Practice Exercises #1-31</td>
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<td>HANDOUT: Right Triangle Trigonometry</td>
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<td>For the next class</td>
<td>Practice Exercises #1-31</td>
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<td>Mon., 2.5</td>
<td>Read Sec. 2.1 through 2.5</td>
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<td>2.1 – Introduction to Graphing #29-35 odd</td>
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<td>2.2 – Introduction to Functions #1-11 odd, 23-43 odd, 61-73</td>
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<td>2.3 – Graphing Linear Functions #13-19 odd, 35-59 EOO</td>
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<td>2.4 – The Slope of a Line #1-87 EOO</td>
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<td>2.5 – Equations of Lines #1-57 EOO</td>
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<td>Wed., 2/7</td>
<td>3.2 – Linear Inequalities, Problem Solving #1-15 odd, 23-81 EOO</td>
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<td>3.3 – Compound Inequalities #1-31 odd, 47</td>
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<td></td>
<td>Ch. 1 Test, pg. 112</td>
<td>#1-45 all</td>
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<td>Ch. 2 Test, pg. 214</td>
<td>#1-17 all, 22-26 all</td>
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<td>Ch. 3 Test, pg. 279</td>
<td>#5, 6, 7, 9-12 all</td>
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</table>
Mon., 2/12  Review for Test on Chs. 1, 2, 3 & RTT
Ch. 1 Test, pg. 112    #1-45 all
Ch. 2 Test, pg. 214    #1-17 all, 22-26 all
Ch. 3 Test, pg. 279    #5, 6, 7, 9-12 all

Wed., 2/14  TEST:  Chs. 1, 2, 3 & RTT  (If you will be absent, you must notify your
instructor.)
For the next class
Read Sec. 4.1 and 4.2

Mon., 2/19  NO CLASS – Presidents Day

Wed., 2/21  4.1 – Solving Systems of Linear Equations
            in Two Variables  #1-57 odd, 81-86 all
4.2 – Solving Systems of Linear Equations
            in Three Variables  #1-13 odd
For the next class
Read Sec. 4.3

Mon., 2/26  4.3 – Systems of Linear Equations and
            Problem Solving  #1-35 odd
For the next class
Read Sec. 5.1, 5.2, and 5.3

Wed., 2/28  5.1 – Exponents and Scientific Notation  #1-61 odd, 63-93 EOO
5.2 – More Work w/Exp, Sci. Notation    #1-55 odd, 57-75 EOO
5.3 – Polynomials and Polynomial Func.  #1-21 odd, 25,27,37-69 EOO, 84
For the next class
Read Sec. 5.4, 5.5, and 5.6

Mon., 3/5  5.4 – Multiplying Polynomials  #1-71 EOO
5.5 – The GCF and Factoring by Grouping  #1-75 EOO
5.6 – Factoring Trinomials  #1-13 odd, 21-39 odd, 53-83
EOO
For the next class
Try #43-49 odd
Read Sec. 5.7 and 5.8

Wed., 3/7  5.7 – Factoring by Special Products  #1-65 EOO
5.8 – Solving Eq. by Factoring, Prob. Solv    #1-87 EOO
Ch. 4 Test, pg. 342    #3-9 odd, 15, 16, 17
Ch. 5 Test, pg. 437    #1-29 all

Mon., 3/12  Review for Test on Chs. 4 & 5  (If you will be absent, you must notify
your instructor.)
Ch. 4 Test, pg. 342    #3-9 odd, 15, 16, 17
Ch. 5 Test, pg. 437    #1-29 all

Wed., 3/14  TEST:  Chs. 4 & 5
For the next class
Read Sec. 6.1 and 6.2
Mon., 3/19  NO CLASS – Spring Break

Wed., 3/21  NO CLASS – Spring Break

Mon., 3/26  6.1 – Rational Functions and Multiplying and Dividing Rational Expressions #1-75 odd
6.2 – Adding and Subtracting Rational Expressions #1-49 odd
For the next class Read Sec. 6.3 and 6.6

Wed., 3/28  6.3 – Simplifying Complex Fractions #1-47 odd
6.6 – Solving Equations Containing Rational Expressions #1-45 odd
For the next class Read Sec. 6.7

Mon., 4/2  6.7 – Rational Equations, Problem Solving #1-33 odd
For the next class Read Sec. 7.1 – 7.2

Wed., 4/4  7.1 – Radicals and Radical Functions #1-75 odd
7.2 – Rational Exponents #1-85 odd
For the next class Read Sec. 7.3 and 7.6

Mon., 4/9  7.3 – Simplifying Radical Expressions #1-71 odd
7.6 – Radical Equations and Problem Solving #1-18 all, 51-65 odd
7.7 – Complex Numbers #1-37 odd, 61-71 odd
Ch. 6 Test, pg. 518 #1-5 all, 8-13 all, 21, 22
Sec. 6.7 Examples 3, 5
Ch. 7 Test, pg. 589 #1–10 all, 22, 23, 25-29 all, 33, 34

Wed., 4/11  Review for Test on Chs. 6 & 7 (If you will be absent, you must notify your instructor.)
Ch. 6 Test, pg. 518 #1-5 all, 8-13 all, 21, 22
Sec. 6.7 Examples 3, 5
Ch. 7 Test, pg. 589 #1–10 all, 22, 23, 25-29 all, 33, 34

Mon., 4/16  TEST: Chs. 6 & 7
For the next class Read Sec. 8.1 and 8.2

Wed., 4/18  8.1 – Solving Quadratic Equations by Completing the Square #1-37 odd
8.2 – Solving Quadratic Equations by the Quadratic Formula #1-33 odd, 53, 67, 68
For the next class Read Sec. 8.3 and 8.5

Mon., 4/23  8.3 – Solving Equations
<table>
<thead>
<tr>
<th>Date</th>
<th>Section</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Wed., 4/25</td>
<td>8.6 – Further Graphing of Quad. Functions</td>
<td>#1-43 odd, Read Sec. 8.6</td>
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<td>Mon., 4/30</td>
<td>9.3 – Exponential Functions</td>
<td>#1-41 odd</td>
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<td>9.4 – Logarithmic Functions</td>
<td>#1-69 odd</td>
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<td>9.5 – Properties of Logarithms</td>
<td>#1-17 odd, Read Sec. 9.3, 9.4, and 9.5</td>
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<td>Wed., 5/2</td>
<td>9.6 – Common Logarithms, Natural Logarithms, and Change of Base</td>
<td>#1-31 odd, 35-49 odd</td>
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<td>9.7 – Exponential and Logarithmic Equations and Applications</td>
<td>#1-39 odd</td>
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<td>Ch. 8 Test</td>
<td>#1-7 all, 14-17 all, 19, 20</td>
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<td>Ch. 9 Test</td>
<td>#11-23 all</td>
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<tr>
<td>Mon., 5/7</td>
<td>Review or “catch-up” day</td>
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<td>Mon., 5/14</td>
<td>TEST: Chs. 8 &amp; 9 (no make-up, no re-take)</td>
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<td>(Wed., 5/16</td>
<td>Class may meet on this day if a make-up class is necessary.)</td>
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