

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

Course Dates: Jan. 22, 2007 – May 16, 2007

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

Intermediate Algebra: A Graphing Approach, third edition, K. Elayn Martin-Gay and Margaret Greene, ©2005 Pearson Education, Inc., Pearson Prentiss Hall, ISBN 0-13-146900-2 (student edition)

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 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.

COLLEGE WITHDRAWAL 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!

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

Mon., 2/12	Review for Test on Chs. 1, 2, 3 & RTT Ch. 1 Test, pg. 112 Ch. 2 Test, pg. 214 Ch. 3 Test, pg. 279	#1-45 all #1-17 all, 22-26 all #5, 6, 7, 9-12 all
Wed., 2/14 instructor.)	TEST: Chs. 1, 2, 3 & RTT (If you will be absent, you must notify your 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 4.2 – Solving Systems of Linear Equations in Three Variables For the next class	#1-57 odd, 81-86 all #1-13 odd Read Sec. 4.3
Mon., 2/26	4.3 – Systems of Linear Equations and Problem Solving For the next class	#1-35 odd Read Sec. 5.1, 5.2, and 5.3
Wed., 2/28	5.1 – Exponents and Scientific Notation 5.2 – More Work w/Exp, Sci. Notation 5.3 – Polynomials and Polynomial Func. For the next class	#1-61 odd, 63-93 EOO #1-55 odd, 57-75 EOO #1-21 odd, 25,27,37-69 EOO, 84 Read Sec. 5.4, 5.5, and 5.6
Mon., 3/5 EOO	5.4 – Multiplying Polynomials 5.5 – The GCF and Factoring by Grouping 5.6 – Factoring Trinomials For the next class	#1-71 EOO #1-75 EOO #1-13 odd, 21-39 odd, 53-83 Try #43-49 odd Read Sec. 5.7 and 5.8
Wed., 3/7	5.7 – Factoring by Special Products 5.8 – Solving Eq. by Factoring, Prob. Solv Ch. 4 Test, pg. 342 Ch. 5 Test, pg. 437	#1-65 EOO #1-87 EOO #3-9 odd, 15, 16, 17 #1-29 all
Mon., 3/12 your instructor.)	Review for Test on Chs. 4 & 5 (If you will be absent, you must notify Ch. 4 Test, pg. 342 Ch. 5 Test, pg. 437	#3-9 odd, 15, 16, 17 #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 Expr.	#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 Rat'l Expr.	#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 Prob 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	

	by Using Quadratic Methods	#1-17 odd
	8.5 – Quadratic Functions and Their Graphs	#1-29 odd
	For the next class	Read Sec. 8.6
Wed., 4/25	8.6 – Further Graphing of Quad. Functions	#1-43 odd
	For the next class	Read Sec. 9.3, 9.4, and 9.5
Mon., 4/30	9.3 – Exponential Functions	#1-41 odd
	9.4 – Logarithmic Functions	#1-69 odd
	9.5 – Properties of Logarithms	#1-17 odd
	For the next class	Read Sec. 9.6 and 9.7
Wed., 5/2	9.6 – Common Logarithms, Natural Logarithms, and Change of Base	#1-31 odd, 35-49 odd
	9.7 – Exponential and Logarithmic Equations and Applications	#1-39 odd
	Ch. 8 Test	#1-7 all, 14-17 all, 19, 20
	Ch. 9 Test	#11-23 all
Mon., 5/7	Review or “catch-up” day Only today: MAKE-UP TESTS (outside of class: 11:00 am & 3:30 pm)	
Wed., 5/9	Review for Test on Chs. 8 & 9	
Mon., 5/14	TEST: Chs. 8 & 9 (no make-up, no re-take)	
(Wed., 5/16	Class may meet on this day if a make-up class is necessary.)	