

Math 095 Syllabus for Spring 2011
Three Rivers Community College

Course: Elementary Algebra Foundations MAT* K095 T10

CRN: 10413

Prerequisites: Math 075 with a grade of C or better OR Acceptable Placement Score

Instructor: John Wengertsman

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Office Hours: Monday and Wednesday 9:45 to 10:45, Tuesday and Thursday 2:30 to 3:30

Text: Beginning Algebra **5th Edition**
by Elayn Martin-Gay

Meeting Times: Tuesday and Thursday from 1-2:15pm

Room #: D203

Course Description: This course extends the basic algebra skills acquired in MAT* K075. The topics include signed numbers, solving first-degree equations, exponents, operations on polynomials, factoring methods, graphing, systems of linear equations, inequalities, radicals, and scientific notation.

Course Objectives: The objective of this course is to enable the student to develop an understanding of the algebraic concept of “variable” and to work with, interrelate, and apply algebra governing: signed numbers, solutions of linear equations and inequalities, exponents, operations on polynomials, factoring and solutions of quadratic equations by factoring, systems of linear equations, radicals, and the relationship between the line and its equation. See attached page for a finer breakdown.

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, May 9. No withdrawals will be accepted after Monday, May 9.

Homework: I expect all homework assignments to be completed and kept in an organized notebook or folder. Homework is assigned at each class meeting.

Course Evaluation: There will be three tests (worth 23% each) and a cumulative final exam (worth 31%). You must come to class to take these tests. **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). Tests 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 below 60

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

Use of Calculators: This course allows the use of a basic scientific calculator (add, subtract, multiply, divide, raise to power). Calculators can be used on tests with the exception of Test 1. No calculators are allowed for Test 1.

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 (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.

Cancellation:

1. Inclement Weather: To obtain information on delays, changes, or class cancellations due to inclement weather or emergencies call 860 886-0177 or go to www.trcc.commnet.edu.

2. Instructor: If for some reason I cannot make it to class or I will be late, then I will email everyone using the email addresses that you provided to the college and are on my electronic Class Roster. I will email all of you to make sure that I do have your CORRECT email address. If you do NOT receive an email from me, then you need to go to Student Services (in the A-1 Wing) and provide them with your correct current email address. If you change your email during the semester, then you need to go to Student Services and make the appropriate change.

MAT095 Course Outcomes

1. Evaluate algebraic expressions
2. Determining if a given number is a solution to an equation or an inequality
3. Determining if an ordered pair is a solution to a linear equation in 2 variables

4. Add, subtract, multiply, and divide real numbers and raise a real number to an integer power
5. Add, subtract, multiply, and divide Polynomials
6. Simplify, add, subtract, multiply, and divide Radicals
7. Rules for Exponents
8. Greatest Common Factor (factoring)
9. Factor by Grouping
10. Factor trinomials of the form $x^2 + bx + c$
11. Factor trinomials of the form $ax^2 + bx + c$
12. Factor Perfect Square Trinomials
13. Factor the Difference of Two Squares
14. Factor Completely
15. Converting between Scientific Notation and standard notation

16. Order of Operations (manipulation)
17. Properties of Real Numbers (manipulation)
18. Simplifying Algebraic Expressions (manipulation)

19. Graphing in a Rectangular Coordinate System
20. Graphing Linear Equations by plotting points, using intercepts, and using the Slope-Intercept form
21. Graphing the solution to a Linear Inequality in one variable.
22. Graphing a System of Linear Equations in two variables
23. Rates of change (slopes)
24. Identifying Linear Equations (Linearity)
25. Solving Linear Inequalities in one variable
26. Finding the Equation of a Line (manipulation)
27. Solving Linear Equations in one variable
28. Solving formulas for a specified variable
29. Solving a System of Linear Equations in two variables (two methods)
30. Solving equations with degree 2 or greater by factoring
31. Two forms for the equation of a line (transforming back and forth)

32. Finding an unknown number word problem
33. Solving consecutive numbers (including odd and even) word problems
34. Solving dimension problems using geometric formulas
35. Solving Percent and Mixture problems
36. Solving table problems such as rate, time, and distance
37. Solving linear inequality problems
38. Solving linear equation in two variables problems
39. Solving System of 2 linear equations in 2 variables word problems
40. Solving factorable Quadratic Equation word problems

Math 095 Course Content

- 1.4 Intro to Variable Expressions and Equations
- 1.5 Adding Real Numbers
- 1.6 Subtracting Real Numbers
- 1.7 Multiplying and Dividing Real Numbers
- 1.8 Properties of Real Numbers

- 2.1 Simplifying Algebraic Expressions
- 2.2 The Addition Property of Equality
- 2.3 The Multiplication Property of Equality
- 2.4 Solving Linear Equations
- 2.5 An Intro to Problem Solving
- 2.6 Formulas and Problem Solving
- 2.7 Percent and Mixture Problem Solving
- 2.8 Further Problem Solving
- 2.9 Solving Linear Inequalities
- TEST 1

- 3.1 Reading Graphs and the Rectangular Coordinate System
- 3.2 Graphing Linear Equations
- 3.3 Intercepts
- 3.4 Slope and Rate of Change
- 3.5 Equations of Lines

- 4.1 Solving Systems of Linear Equations by Graphing
- 4.2 Solving Systems of Linear Equations by Substitution
- 4.3 Solving Systems of Linear Equations by Addition
- 4.4 Systems of Linear Equations and Problem Solving
- TEST 2

- 5.1 Exponents
- 5.2 Adding and Subtracting Polynomials
- 5.3 Multiplying Polynomials
- 5.4 Special Products
- 5.5 Negative Exponent and Scientific Notation
- 5.6 Dividing Polynomials
- TEST 3

- 6.1 The Greatest Common Factor and Factoring by Grouping
- 6.2 Factoring Trinomials of the Form $x^2 + bx + c$
- 6.3 Factoring Trinomials of the Form $ax^2 + bx + c$
- 6.5 Factoring Binomials
- 6.6 Solving Quadratic Equations by Factoring
- 6.7 Quadratic Equations and Problem Solving

- 8.1 Intro to Radicals
- 8.2 Simplifying Radicals
- 8.3 Adding and Subtracting Radicals
- 8.4 Multiplying and Dividing Radicals
- FINAL EXAM - CUMULATIVE