

**Naugatuck Valley Community College
Waterbury, Connecticut
Crosby High School**

Part I: Course Information

MATH 095: Elementary Algebra Foundations

Instructor: NikoletaKollchaku

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Meeting place: 326E-Crosby High School

Course description: This course begins with a brief review of basic computational skills and operations with signed numbers. Algebraic order of operations and evaluation and simplification of algebraic expressions is followed by techniques for solving first degree equations and inequalities in one unknown. Also included in this course are algebraic methods for solving applications involving one and two unknowns. Basic rules of exponents are presented and scientific notation is discussed. This is followed by the basic polynomial operations and graphing linear equations in two unknowns, finding slopes of lines, x - and y -intercepts, and writing equations of lines.

Number of credits: 3 credit hours. This course will not fulfill a mathematics requirement in any degree program.

Textbook (optional): *Beginning & Intermediate Algebra*, ISBN: – 9780134193090, by Elayn Martin-Gay, 6th Edition.

Technology (required): TI 84 graphing calculator and MyMathLab software license.

MyMathLab CourseID: **kollchaku44287**

Course objectives:

1. Develop a good understanding of the language and symbolism of basic algebra.
2. Acquire an understanding of the properties underlying the structure of algebra.
3. Develop the ability to extend basic algebra concepts to more sophisticated courses.
4. Use algebra to model real world situations.

Instructional Methodology: This course will be taught via lectures, activities requiring small group work, guided practice of problems in class, and MyMathLab software assignments.

Part II: COURSE POLICIES

- Attendance and Tardy Policy
 - Attendance Policy: Please refer to the district policy located on the Crosby website or in the student handbook (<https://goo.gl/nSz4er>)

- Students who are tardy to a class 3 times will serve a detention issued by the classroom teacher. Each subsequent tardy will be a referral to the office for disciplinary action.
- Late Work Policy
 - Refer to district grading policy or see the link at the bottom of the page.
- Academic Dishonesty - Academic dishonesty shall in general mean conduct which has as its intent or effect the false representation of a student's academic performance, including but not limited to:
 - a. Cheating on an examination
 - b. Collaborating with others in work to be presented, contrary to the stated rules of the course
 - c. Plagiarizing, including the submission of others ideas or papers (whether purchased, borrowed or otherwise obtained) as one's own
 - d. Stealing or having unauthorized access to examination or course materials
 - e. Falsifying records, laboratory or other data
 - f. Submitting, if contrary to the rules of a course, work previously presented in another course
 - g. Knowingly and intentionally assisting another student in any of the above, including assistance in an arrangement whereby any work, classroom performance, examination or other activity is submitted or performed by a person other than the student under whose name the work is submitted or performed.

Students should not give or receive aid during examinations, quizzes, tests or lab assignments. Students should not use answers to examinations, quizzes and tests written on cheat sheets, clothing or body parts, or obtained from others who have taken the same test prior to them. Students should not use in any written work, without proper acknowledgement, the wording of any sentence or part of a sentence of another author without acknowledgement of the original author. Students should not use calculating devices during tests where calculators are not permitted.

Plagiarism according to The American Heritage Dictionary of the English Language, Fourth Edition, 2000, is "1. A piece of writing that has been copied from someone else and is presented as being your own. 2. The act of

plagiarizing: taking someone's words or ideas as if they were your own." If you copy another's work in a paper, for instance, you must put the copied material in quotation marks and footnote or endnotes. If you restate the language or thoughts of another in your own words, you are paraphrasing. Omit the quotation marks, but footnote or endnote the original source. Not to attribute the idea to the original person is to plagiarize. In general, it is better to acknowledge too many sources than too few.

Plagiarism, as defined above, is considered a serious academic offense. According to Connecticut statute, plagiarism is a criminal act and classified as a Class "B" misdemeanor. The teacher, in conference with an administrator, will exercise his/her professional judgment when determining an appropriate penalty for a project that has been plagiarized. The nature of the penalty should be relative to the magnitude of the offense. Examples of penalties that will be invoked are: a zero for the project, an "F" for the course, and/or referral to the proper authorities. The teacher and administrator will determine if the student may be permitted to complete the paper properly, or write an entire new paper properly. These and other penalties will not be imposed when the classroom teacher determines that the sources in a paper have been mis-cited. The teacher with the administration will determine the extent of grade reduction and possible suspension or referral to authorities. (Obtained from Tunxis Community College Handbook)

CODE OF CONDUCT

- Profanity
 - The use of profanity in school is unacceptable and can result in an office referral.
- Cell Phone Usage Policy
 - Cell phones **MUST BE** off and away other than when approved by the teacher for academic purposes
 - 1st offense: Confiscate, warning and notify parent, return to student at the end of the school day.
 - 2nd offense: Confiscate, in school suspension or after school detention, item to be returned to parent/legal guardian only at the end of the school day.
 - 3rd offense: Confiscate, out of school suspension, item to be returned to parent/legal guardian only at the end of the school day. (<https://goo.gl/FMxNyt>)

- Disposition Toward Learning

COURSE GRADING (Per District Policy)

60% Assessments

20% Classwork

10% Disposition Toward Learning

10% Homework

Student/Parent Handbook: <https://goo.gl/rsFr95>

In the addition to the above policy there are some specifics as follow:

Homework: A homework assignment will be posted on MyMathLab after each section is completed in class and will be due at 11:59pm one week after the day it was posted. You may submit homework assignments late, but there will be a 10% penalty for doing so. There is no limit on homework problem submissions.

Quizzes: There will be a short in-class quiz every lesson.

Exams: There will be exams for each chapter, a Mid term and a cumulative final exam.

Make-Up Policies:

Homework: The HW is on MYmath lab and there is a penalty 10% for late.

Quizzes: There will be no make-ups for quizzes.

Exams: Exams cannot be made up unless there are extenuating circumstances. The instructor will determine if the student has a valid reason for making up an exam.

Part III: General Information and Resources

Learning outcomes: At the end of this course the student will be able to do the following:

1) Rational numbers:

- a. Identify and distinguish between rational and irrational numbers.
- b. Use rational approximations of irrational numbers to compare the size of irrational

numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2)

2) Expressions and Equations with Polynomials, Rational, and Radical Expressions, and Integer Exponents:

- a. Interpret parts of an expression, such as terms, factors, and coefficients and evaluate expressions for given replacement value(s).
- b. Add, subtract, and multiply polynomials. Divide polynomials by a monomial.
- c. Construct and interpret equations as two expressions set equal to each other.
- d. Manipulate formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's Law $V=IR$ to highlight resistance, R .
- e. Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/27$.

3) Linear Equations in One Variable:

- a. Solve linear equations and inequalities in one variable.
- b. Solve linear equations with rational coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.
- c. Create linear equations and inequalities in one variable and use them to solve real world applications.
- d. Recognize examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions.

4) Linear Equations in Two Variables:

- a. Interpret the rate and unit rate as the slope of the graph.
- b. Derive the equation $y=mx+b$ for a line intercepting the vertical axis at b and having a slope of m .
- c. Identify parallel and perpendicular lines based on their slopes.
- d. Graph a linear equation in two variables.
- e. Construct a linear equation to model a linear relationship between two quantities.
- f. Determine and interpret the rate of change and initial value from a description of a relationship or from two (x,y) values, including reading these from a table or graph.
- g. Construct linear equations given a graph, a description of a relationship, or two input-output pairs (including reading these from a table) using point-slope form and slope-intercept form.

5) Systems of Linear Equations

- a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs.
- b. Solve systems of two linear equations in two variables algebraically (using both substitution and addition methods), graphically (by hand and/or technology), solve simple cases by inspection. For example, $3x+2y=5$ and $3x+2y=6$ have no solution because $3x+2y$ cannot simultaneously be 5 and 6.
- c. Recognize systems of linear equations with one solution, infinitely many solutions, or no solutions.
- d. Solve real-world problems leading to two linear equations in two variables.

6) Functions:

- a. Understand that a function is a rule that assigns to each input exactly one output and

that the graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

- b. Interpret the equation $y=mx+b$ as defining a linear function, whose graph is a straight line.
- c. Use functions to model relationships between quantities.
- d. Use function notation. Evaluate functions for inputs in their domains.
- e. Graph linear functions and show intercepts.
- f. Recognize that linear functions have a constant rate of change and interpret the rate of change in the context of the problem.

7) Applications:

- a. Apply geometrical formulas for two- and three-dimensional figures such as rectangles, circles, rectangular solids, cylinders, spheres, etc.
- b. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles
 - a. in real-world and mathematical problems in two dimensions.

Grading System:

For the purpose of computing numerical credit point averages, grades are evaluated as follows for each semester hour of credit. Grades on exams, papers, and quizzes, will be based on this grading system.

Quizzes/Test	80%
Mid term Exams	10%
Final Exam	10%

Absences and Attendance Guidelines:

- Waterbury Board of Ed/Crosby Policy