

MAT 110 – COLLEGE ALGEBRA

3 hrs./wk. – 3 cr.

8/2020

BEGINNING FALL 2020

Catalog Description: An intensive course designed to prepare students for mathematics courses such as Calculus with Applications to Business and Economics, and Precalculus. It covers selected algebra topics including exponents, rational expressions, polynomials, radicals, relations and functions, exponential and logarithmic functions, and systems of equations.

Prerequisite: MAT 016 (grade of “C” or better) or equivalent

Text: Lial, Hornsby, McGinnis, *Algebra for College Students*, 9th ed. (Addison-Wesley/Pearson, 2020)

Supplementary Materials: MyMathLab

Syllabus

Period	Text Sections	Topics
1 – 2	1.1 – 1.4	Solving linear equations, formulas, applications
3	1.5 – 1.7	Interval notation; solving linear inequalities, compound inequalities, absolute value equations (not abs value inequalities)
4	2.1 – 2.3	Slope, equations of lines
5	2.5 – 2.6	Relations and functions, linear functions
6		Test 1
7 – 8	3.1 – 3.3	Systems of equations with 2 and 3 variables, applications
9 – 10	4.1, 4.3, 4.5, 4.6	Integer exponents, operations on polynomials, long division
11 – 12	5.1 – 5.5	Factoring, solving equations by factoring
13		Midterm Exam
14 – 17	6.1 – 6.5	Operations on rational expressions, complex fractions, rational equations, applications
18 - 21	7.1 – 7.6	Radicals, rational exponents, operations on radicals, radical equations
22		Test 3
23	7.7	Complex numbers
24 – 25	8.1 – 8.3	Solving all quadratic equations
26	9.1 – 9.3	Function operation and composition , Quadratic functions and graphs
27 – 28	10.2, 10.3	Introduction to exponential and logarithm functions, solving simple exponential and logarithmic equations
29		Final Exam Review
30		Final Exam

Students are expected to adhere to the policies of the County College of Morris. These can be accessed at www.ccm.edu/academics/academic-policies/.

Statement of Course LEARNING OUTCOMES

- **Identify, solve, and apply** linear, quadratic, rational, polynomial and square root equations.
- **Recognize, classify, and apply** linear equations, linear inequalities and polynomials.
- **Identify, describe, and illustrate** functions with emphasis on linear, quadratic, rational, constant and square root equations.
- **Manipulate and analyze** functions
- **Recognize and compare** logarithmic and exponential functions
- **Identify, classify, solve and apply** systems of linear equations in two and three variables
- **Communicate** accurate mathematical terminology and notation in written and/or oral form in order to identify function models to solve applications and interpret found solutions.