MATH 100 College Algebra

Catalog Description: (3) I, II, S. Fundamental concepts of algebra; algebraic equations and inequalities; functions and graphs; zeros of polynomial functions; exponential and logarithmic functions; systems of equations and inequalities.

Prerequisites: Pr.: B or better in MATH 010; or two years of high school algebra and a College Algebra PROB ≥ C of 60 or more on the ACT assessment [1] by K-State; or a score of at least 18 on the mathematics placement test [1].

Textbook: *College Algebra*, Beecher, Penna, Bittinger, Addison-Wesley, Customized Edition for K-State.

Course Objectives: Cover the basic algebraic concepts which are essential building blocks for mathematics and other disciplines.

Sessions: Two hours of lecture and one hour of recitation per week.

Chapter	Topics	Sessions
R	The Real Number System	1
	Interger Exponents, Scientific Notation, and Order of Operations	1
	Addition, Subtraction, and Multiplication of Polynomials	1
	Factoring	1
	Rational Expressions	1
	Radical Notation and Rational Exponents	1
1	Introduction to Graphing	1
	Functions and Graphs	1
	Linear Functions, Slope, and Applications	1
	Equations of Lines and Modeling	1
	More on Functions	1
	Symmetry and Transformations	1
2	Linear Equations, Functions, and Models	1
	The Complex Numbers	1
	Quadratic Equations, Functions, and Models	1
	Analyzing Graphs of Quadratic Functions	1
	More Equation Solving	1
	Solving Linear Inequalities	1
3	Polynomial Functions and Models	1
	Polynomial Division; The Remainder and Factor Theorems	1
	Theorems about Zeros of Polynomial Functions	1
	Rational Functions	1
	Polynomial and Rational Inequalities	1
4	Composite and Inverse Functions	1
	Exponential Functions and Graphs	1
	Logarithmic Functions and Graphs	1
	Properties of Logarithmic Functions	1
	Solving Exponential and Logarithmic Equations	1
	Applications and Models: Growth and Decay	2
5	Systems of Equations in Two Variables	1

Systems of Equations in Three Variables	2
Matrices and Systems of Equations	2
Matrix Operations	2
Inverses of Matrices	2
Partial Fractions	2
Reviews	5
Total	46

[1] The ACT assessment done by K-State is based on prior student's ACT scores and their performance in K-State courses. The assessment profile is available when the student comes to enroll at K-State for the first time and is included in their enrollment packet. The mathematics placement test and the arithmetic placement test are administered on a walk-in-basis in the Academic Assistance Center, 101 Holton Hall, on the K-State campus. For more information, call the Academic Assistance Center, 785-532-6492.