MATH 010 Intermediate Algebra

Catalog Description: (3) I, II, S. Preparatory course for MATH 100. Includes arithmetic (signed numbers, polynomials, algebraic fractions, exponents, and roots), solutions to equations (linear, quadratic, polynomial, root, and fractional), graphs (linear and quadratic), and geometry (area, perimeter, and the Pythagorean Theorem).

Prerequisites: Two units of mathematics in grades 9-12 and a College Algebra PROB ≥ C of 43 or more on the ACT assessment [1] by K-State; or a score of at least 7 on the mathematics placement test [1]; or a score of at least 26 on the arithmetic placement test [1].

Textbooks: *Intermediate Algebra Manual*, Dale Hawkinson and Carol O'Neill, Varney's Bookstore. *College Algebra Primer*, Dale Hawkinson, Kendall Hunt, 1st edition. *Steps in Math Modules*, Modules 1-5, Ablon *et al*, Varney's Bookstore, latest edition.

Course Objectives: Review basic arithmetic and cover some very basic algebraic concepts. The course is taught using a flexibly paced, mastery system. Students test over each unit of material until they achieve 80% proficiency.

Sessions: Two hours of lecture, two hour of recitation, and one testing period per week.

Modules	Topics	Sessions
1	Integer and Rational Number Arithmetic	6
2	Polynomial Arithmetic	6
3	Linear Equations in One Variable and Applications	4
	Linear Equations in Two Variables	3
	Systems of Equations	3
4	Factoring Common and Trinomial Expressions	2
	Factoring Expressions Involving Squares	2
	Arithmetic of Algebraic Fractions	4
5	Square Roots	2
	Quadratic Equations in One Variable	4
	Parabolas and Systems of Equations	4
	Area and Perimeter of Rectangles, Triangles, and Circles	2
	Pythagorean Theorem and Literal Equations	2
P	Properties of Exponents and Negative Exponents	2
	Roots and Fractional Exponents	2
	Equations Involving Fractions, Roots, and Polynomials	4
	Applications	2
	Linear Inequalities in One Variable	2
Reviews		4
Total		60

[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.