**SYLLABUS**

# MA 102 Introductory Algebra

**Classification:**     Regular, offered every semester, not applicable towards the general education requirement for any major.

**Prerequisites:**     MA098, or by Math Placement Test

**Course Description:**     Introductory algebra course to prepare students for MA103, College Algebra. Properties of real numbers, polynomials, factoring skills, rational expressions, simple radicals, lines and linear equations, systems of linear equations, application of equations (word problems).

**Topics to Cover:**

1.  The real number system; Sets of real numbers on the real number line, properties and basic operations of real numbers, symbols and algebraic terms. Chapter 1.
2.  Equations and inequalities, word problems. Chapter 2.
3.  Graphing and equations of lines; variation: The rectangular coordinate system and line graphing, functions; four types of variation. Chapter 3.
4.  Polynomials; integer exponents (including zero and negative integer exponents), the four basic operations of polynomials; factoring and the FOIL method. Chapter 4.
5.  Problem solving: word problems involving integers, ballistics, and geometry. Chapter 5 (optional: 5.1-5.7).
6.  Proportion and rational expressions: Ratios, the four basic operations of fractions, applications of equations containing fractions. Chapter 6.
7.  Systems of equations and inequalities: solving systems by graphing, by substitution, and by addition; applications of systems of equations. Chapter 7 (optional 7.5).
8.  Roots and radical expressions: Focus on square roots, cube roots, and the Pythagorean Theorem; the distance formual. Chapter 8 (optional 8.3, 8.4, 8.5, 8.6).
9.  Quadratic equations and graphing quadratic functions: the quadratic formula. Chapter 9 (optional 9.2, 9.4)