MATH 0600 ELEMENTARY ALGEBRA

3 Credit in house
Offered in Lab or Lecture Format
Prerequisite required (MATH 0500 with a grade of C or better or Appropriate Placement-Test Score)

Revised 3/24/93

SYLLABUS

I. ***REVIEW OF ADDITION, SUBTRACTION, MULTIPLICATION, AND DIVISION OF FRACTIONS AND DECIMALS**

II. **ADDITION, SUBTRACTION, MULTIPLICATION, AND DIVISION OF INTEGERS AND RATIONAL NUMBERS**

- A. Introduction to sets, including definition of integer, rational number, and real number
- B. Concept of absolute value
- C. Order of operations
- D. Algebraic expressions
  1. Variables
  2. Terms
  3. Factors
  4. Coefficients
- E. Translating English expressions into algebraic expressions
- F. Distributive property and greatest common factor
- G. Expressing complex algebraic fractions in simplest form
- H. Evaluating algebraic expressions

III. **SOLVING LINEAR EQUATIONS (INCLUDING PERIMETER, AREA, NUMBER, AND *AGE PROBLEMS)**

- A. Techniques of solving
- B. Word problems

IV. **SOLVING RATIONAL EQUATIONS**

- A. Techniques of solving
- B. Word problems

V. **SOLVING LITERAL EQUATIONS FOR A SPECIFIED VARIABLE**

- A. Basic linear equations
- B. Rational equations
- C. By combining like terms and factoring

VI. **SOLVING LINEAR INEQUALITIES IN ONE VARIABLE**

VII. GRAPHING LINEAR EQUATIONS IN TWO VARIABLES

A. Coordinates
B. Plotting points
C. Methods of graphing linear equations
   1. Using a table
   2. Using intercepts
   3. Horizontal and vertical lines
   4. Introduction to graphing a nonlinear equation using a table
D. Interpreting graphs

VIII. QUADRATIC EXPRESSIONS AND FACTORING

A. Addition and subtraction of monomials
B. Multiplication
   1. Monomial times monomial
   2. Monomial times polynomial
   3. FOIL method
   4. Squaring a binomial
C. Factoring
   1. Greatest common monomial factor
   2. Difference of perfect squares
   3. Factoring general trinomials

IX. SQUARE ROOTS OF NON-NEGATIVE NUMBERS

A. Perfect squares
B. Radical notation
C. Solving quadratics by factoring
D. Solving quadratics of the form $ax^2 + c = 0$
E. Solving for the sides of a right triangle by using the Pythagorean Theorem

*Optional