Instructor: J. Kevles       Section: 97828    Time: M, F Culinary Arts 211, 9:00 AM to 10:40 AM
Prerequisite: Developmental Math Skills or Equivalent
Telephones: Math Office 548-2628 & 548-3532
Course Title: Algebra I    MAT 007
Office Hours: See instructor for appointment

Objectives: Upon successful completion of this course, students should be able to:
1. Demonstrate an understanding of the use of variables as representatives of real numbers, the use of the order of operations to evaluate algebraic expressions, and the meaning of terms, expressions, and factors;
2. Demonstrate an understanding of the arithmetic properties of real numbers (associative, commutative, identities, inverses, and distributive properties) and be able to apply these properties in manipulating algebraic equations;
3. Solve linear equations and inequalities in one variable and apply these techniques to simple models;
4. Solve systems of linear equations in two variables using the techniques of graphing lines, algebraic substitution method, and the algebraic elimination method, and apply these techniques to simple models- moreover, the methods of graphing a line should be done using table of values, intercepts, and incorporating the slope of the line;
5. Perform polynomial addition, subtraction, multiplication, division by a monomial and binomial, and factoring; solving polynomial equations that can be factored, and using these techniques applied to simple models;
6. Simplify and perform basic operations on rational expressions; moreover, be able to solve rational equations using factoring techniques and apply these techniques to simple models;
7. Demonstrate an understanding of radicals and simplify expressions involving radicals.
8. Interpreting word problems into equations and arriving at real solutions.
9. Solve a quadratic equation by factoring.

Requirements
The student is responsible for all material taught or assigned by the instructor. It is the student’s responsibility to obtain any missed assignments from a classmate. The text must be brought to every class. At the beginning of class the homework assignment must be put on the board. Class work and homework will influence your final mark in a positive way. Lateness to class will influence your final mark in a negative way. For every 1 hour of class time there should be a minimum of 2 hours study and homework time.

College - Wide Attendance Policy
All students are expected to attend every session of the class. Students are responsible for all that transpires in class whether or not in class. The college defines excessive absences or lateness as more than the equivalent of one week of class meetings during the semester. Excessive absences or lateness may lead to failure in a course or removal from the class roster. Absences that may have resulted from extreme circumstances will be handled on a case by case basis. Documentation for these cases will be required.

Grading policy
There will be four cumulative examinations and a comprehensive final. The final will be weighted twice. We will review before each examination. Time permitting, unannounced quizzes will be given. Quizzes are on the one or two previous topics and the sum of the quiz marks will be treated as one test. Test dates and topics will be announced in advance. All tests will be cumulative. No makeup examinations will be given. Absences from a test that may have resulted from extreme circumstances will be handled on a case by case basis. Documentation for these cases will be required.

Dishonesty of any form could result in failure.

Homework:
Homework will be assigned during each class meeting and be reviewed at the beginning of each session. Submission will be on an individual basis, but I will check on homework by circulating among you. Please obtain a method of contact with a classmate for missed assignments and classroom discussion. You are responsible for all the material in the course whether in attendance or not.
**Calculator:** A scientific calculator may be used in this course. You will receive help on the use of your calculator. Consult your handbook as well. A graphing calculator will **not** be allowed.

**Outline of Topics:**

1. **Fundamental Operations of Real Numbers**
   - a) Mathematical symbols and notations
   - b) Sets of numbers
   - c) Basic properties (axioms) of real numbers
   - d) Operations of signed numbers
   - e) Graphing of signed numbers
   - f) Order of operations
   - g) Absolute value

2. **Linear Equations and Inequalities**
   - a) Solving linear equations
   - b) Solving verbal problems/applications
   - c) Solving simple linear inequalities
   - d) Solving literal equations

3. **Operations with Polynomials**
   - a) Naming and evaluation of polynomials
   - b) Addition and subtraction of polynomials
   - c) Properties of exponents
   - d) Multiplication of polynomials
   - e) FOIL method and special products
   - f) Division of polynomials (by monomials and binomials)

4. **Factoring Polynomials**
   - a) Common factors and grouping
   - b) Difference of two squares and perfect square binomials
   - c) Factoring trinomials by inspection of coefficient
   - d) Solving quadratic equations by factoring

5. **Algebraic Fractions**
   - a) Reducing
   - b) Multiplication and division
   - c) Addition and subtraction
   - d) Solving equations containing fractions
   - e) Solving applied problems

6. **Graphing Linear Equations**
   - a) The Cartesian coordinate system
   - b) Graphs of linear equations
   - c) Definition of slope, parallel, intersecting, and coinciding lines

7. **Systems of Linear Equations**
   - a) Solving linear systems by graphing
   - b) Solving linear systems by addition/substitution
   - c) Application involving linear systems

8. **Common Roots and Radicals**
   - a) Definitions
   - b) Properties
   - c) Simplification and rationalization of denominators

9. **Understanding Word Problems**

**Supplies:**
Bring your textbook, notebook, rectangular graph paper, and calculator to class to every session. A short ruler will help us draw straight lines.

Good luck and enjoy your learning experience! Kindly fulfill your responsibilities as I will fulfill mine.