INSTRUCTOR: Assistant Professor E. Connolly  
COURSE: Algebra I - MAT 007  301  
SECTION: CRN 22728 TTR 11:30 to 1:10  Shinnecock Rm 215  
TELEPHONES:  
548-2628  (Math Dept. Secretary)  Math Dept. Office  S220  
548-3624  (Math Lab---S108)  TTR 7:30 to 9:10 AM  
548-2594  (Academic Skills Center--Orient 234)  
OFFICE HOURS: TTR 9:30 to 11:15 in S119  

COURSE PHILOSOPHY:  
MA07 will introduce the student to the basis concepts of Algebra. Emphasis will be on helping the student to acquire manipulative skills through practice. Although MA07 credit is not applicable toward any degree, it does count toward full-time status. After completing MA07, the student should be fluent in the core topics. Completion of MA07 allows students to move on to full credit Math courses and meets the perquisite for many science and technology courses.  

GRADING POLICY:  
Grading is on the basis of Satisfactory or Unsatisfactory. The only grades given will be S or U. The S grade will be broken down reflecting the following mastery levels: S/A = 90-100%, S/B = 80-89%, S/C = 70-79%, as per the college catalog. An average below 70% will result in a grade of U.  

OBJECTIVES:  
Upon successful completion of this course, students should be able to:  
1. Solve the following types of linear equations: quadratic equations, equations involving rational expressions, equations involving radicals, systems of two equations in two unknowns using graphing, elimination and substitution methods.  
2. Solve the following types of inequalities: linear inequalities and systems of linear inequalities in two variables.  
3. Graph the following: lines, linear inequalities in two variables.  
4. Perform the elementary operations on the following: polynomials, rational expressions, and radicals.
5. Simplify algebraic expressions including: reducing to lowest terms; complex fractions; algebraically rewriting results using basic definitions, laws of exponents, distributive law, factoring, and other basic properties of real numbers; rationalizing the denominator.

6. Set up and solve word problems which apply basic linear equations, quadratic equations, and equations involving rational expressions.

7. Interpret the basic relationships linking linear equations and linear inequalities in two variables, and parabolic equations to their graphs such as: solution sets, slope, parallel and perpendicular lines, x-intercepts, y-intercepts, and intersection of lines.

CORE TOPICS:

I. 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

II. LINEAR EQUATIONS AND INEQUALITIES
   A. Solving linear equations
   B. Solving verbal problems/applications.
   C. Solving simple linear inequalities
   D. Solving literal equations/formulas

III. 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)

IV. 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
V. **ALGEBRAIC FRACTIONS**
   A. Lowest Term Reduction.
   B. Multiplication and division
   C. Addition and subtraction.
   D. Solving equations containing fractions
   E. Solving applied problem

VI **GRAPHING LINEAR EQUATIONS**
   A. The Cartesian coordinate system
   B. Graphs of linear equations
   C. Definition of slope, parallel and coinciding lines

VII. **COMMON ROOTS AND RADICALS**
   A. Definitions
   B. Properties
   C. Simplification and rationalization of denominators

PROCEDURES:
The instructor will begin each class by answering any questions from the previous assignment. New material will then be introduced. Students will work assigned problems from the text and other sources in class after the lecture, consulting with the instructor to verify/clarify course material.

STUDENT REQUIREMENTS:
The student is required to:
1. Attend all classes and arrive on time.
   2) OR MORE CLASSES MAY RESULT IN STUDENT BEING WITHDRAWN FROM THE CLASS.
2. Take notes in a math notebook and read assigned chapters in the textbook.
3. Complete assignments before the next scheduled class meeting.
4. Take at least 5 of the 6 tests (NO MAKE-UPS WILL BE GIVEN)
5. Take the Final Exam.
6. Be prepared to take short quizzes which may or may not be announced.
7. Behave in an appropriate manner. Such disruptions as talking, eating, drinking, (No food is allowed in classrooms), leaving and reentering the room, arriving late to or frequently leaving class early class and beepers and phones going off will not be tolerated. THE INSTRUCTOR RESERVES THE RIGHT(BY COLLEGE POLICY) TO ASK DISRUPTIVE STUDENTS TO LEAVE THE CLASSROOM FOR THE DAY. IF A STUDENT CONTINUES TO BE DISRUPTIVE HE/SHE MAY BE WITHDRAWN FROM THE CLASS.
**GRADING PROCEDURES**

1. There will be six (6) tests.

2. The test will count 60% of the grade.

3. The Final Exam will be comprehensive and will count as 30% of the grade.

4. Assignments and quizzes will count as 10% of the grade.

5. The grade in the course will be based on the average of the tests, assignments/quizzes and final exam.

**TEXTBOOK:**  *Beginning Algebra* eighth Edition by McKeague

**CALCULATOR POLICY:** The use of a graphing calculator is not permitted, however the use of scientific calculators will be allowed. You will not be permitted to use any electronic device for calculators. Sharing of calculators on Tests will not be allowed. There are no loaner calculators.

**OTHER MATERIALS AVAILABLE:**

Video cassettes for McKeague’s textbook are located in the library, Audio-Visual section.