THE COLLEGE OF NEW JERSEY
MATHEMATICS AND STATISTICS DEPARTMENT

MAT 095   Intermediate Algebra   0 s.h

Prerequisites: Satisfactory completion of the academic development requirement in mathematics; demonstrated inadequate level of preparation for MAT 096.

I   Course Description

  This course is designed for students majoring in a field where at least one of the courses, Pre-calculus (MAT 096), Calculus for Business and the Social Sciences (MAT 125) or Calculus A (MAT 127). Conceptual understanding and skill development of traditional algebraic topics such as: linear equations and inequalities, exponents and polynomials, rational expressions, quadratic equations, and systems of linear equations, are included. .

II   Course Objectives

A.   To develop additional algebraic skills and conceptual understanding.
B.   To develop skill in the application of course content to word problems.
C.   To prepare the student for MAT 096, Precalculus.

III   Course Outline

A.   Linear Equations and Inequalities:

1.   Solutions
2.   Applications

B.   Exponents and Polynomials:

1.   Integer Exponents
2.   Multiplication of Polynomials
3.   Greatest Common Factor
4.   Factoring Trinomials
5.   Solving Polynomial Equations

C.   Rational Expressions:

      1.   Multiplication, Division
      2.   Addition, Subtraction
      3.   Division of Polynomials

D.   Quadratic Equations:

      1.   Completing the Square
      2.   Quadratic Formula
      3.   Applications

E.   Systems of Linear Equations:

      1.   Two Variable Systems
      2.   Three Variable Systems
      3.   Applications of Linear Systems

F.   Quadratic Functions and Conic Sections

      1.   Parabolas
      2.   Circles
      3.   Ellipses (optional)
      4.   Hyperbola (optional)

IV   Teaching Methods

A.   Lecture/discussion classes
B.   Outside problem assignments

V   Bibliography (see attached)

VI   Course Requirements

A.   Quality and quantity of completed assignments
B.   Quality of responses on examinations/quizzes

VII   Course Evaluation

A.   By students

1.   By use of the department student evaluation form.
2.   By student performance on Mathematics Placement Test retest.

B.   By Faculty

1.   By committee discussion of course success.
2.   By review of student performance on Mathematics Placement Test retest.

VIII   Requirement to Enroll in MAT 096

Retake the Mathematics Placement Test.

V   *Bibliography*

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Schlichting, Marvin, <u>Intermediate Algebra</u>, D. VanNostand, 1981.

Tobey, John Jr., and Jeffrey Slater, <u>Intermediate Algebra</u>, Prentice Hall, 1991.

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