COUNTY COLLEGE OF MORRIS
Course Information Outline

Course Title College Algebra **PREFIX&NUMBER** MAT 110

Lecture Hours 45 **Laboratory Hours** 0 **Credit Hours** 3 **Course Fee** None

Department Chairperson Approval J. Monaghan **Date** 05-25-2010

Division Dean Approval P. Enright **Date** 5/26/10

1. Catalog Course Description

An intensive course designed to prepare students for mathematics courses such as Calculus with Applications to Business and Economics, and Precalculus. It covers selected algebra topics including exponents, rational expressions, polynomials, radicals, relations and functions, exponential and logarithmic functions, and systems of equations.

2. Prerequisite(s)

MAT 016 (grade of "C" or better) or MAT 060 (grade of "C" or better) or equivalent.

3. Co-requisite(s)

None

4. Textbooks

Blitzer, *Algebra for College Students*, 6th ed. (Pearson Prentice Hall, 2009)

5. Supplementary Books and/or Materials

Beverly Fusfield, Student's Solutions Manual; Digital Video Tutor (CD-Rom); access to MyMathLab.

6. Specialized equipment, supplies, facilities, for classes limited by enrollment or restricted by accreditation and/or equipment limitations. (Information will be used to determine differential funding category.)

None

7. Course Content (List of Topics)

- Operations and factoring polynomials, rational expressions
- Rational exponents, radical expressions
- Linear equations and applications
- Complex numbers; quadratic equations and applications
- Solving other types of equations
- Solving linear, quadratic and rational inequalities
- Absolute value equations and inequalities
- Graphing, circles
- Functions, linear functions, equations of lines

- Graphs of basic functions, transformations
- Function operations, composition
- Quadratic functions
- Inverse functions, exponential functions
- Logarithmic functions, properties of logarithms
- Solving exponential and logarithmic equations; applications
- Solving systems of equations with two and three unknowns

8. Statement of Course LEARNING OUTCOMES

- **Identify**, **solve**, and **apply** linear and quadratic equations
- **Recognize**, **classify**, and **apply** linear and polynomial inequalities
- **Identify**, **describe**, and **illustrate** functions, in particular linear and quadratic functions
- **Manipulate** and **analyze** functions in general
- **Recognize** and **compare** logarithmic and exponential functions
- **Identify, classify, solve** and **apply** systems of linear equations in two and three variables

9. Statement of Relation to Curriculum(s)

MAT 110 satisfies three credits of the mathematics requirement for most business and liberal-arts students, and is prerequisite to MAT 123 (Precalculus).

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Division Dean Approval P. Enright **Date** 5/1/09

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