

## COMMUNITY COLLEGE OF ALLEGHENY COUNTY

<b>CAMPUS:</b>	All	<b>CREDIT COURSE SYLLABUS</b>
<b>COURSE NUMBER:</b>	MAT120	<b>COURSE TITLE:</b> Analytical Methods
<b>SEM CRDTS:</b>	4	<b>LECTURE HOURS:</b> 4
<b>PREREQUISITES:</b>	MAT108	<b>COREQUISITES:</b> None

### CATALOG COURSE DESCRIPTION:

A course in selected topics in algebra with emphasis on business and social sciences applications. Topics include linear and non-linear algebraic functions, exponential and logarithmic functions, systems of linear equations and inequalities, vectors and matrices, linear programming, elementary probability and the mathematics of finance.

### LEARNING OUTCOMES:

Upon successful completion of the course, the student will be able to:

- Graph linear equations
- Solve linear systems of equations
- Construct and apply linear, quadratic and exponential functions
- Formulate and solve linear programming models
- Apply and evaluate formulas for the mathematics of finance.
- Perform matrix operations and apply matrix algebra to problem solving such as systems of equations.
- Employ basic concepts of probability
- Apply mathematical terminology, concepts, and procedures in this course to problems found in management, accounting, finance, and other fields of business

### LISTED TOPICS:

1. Linear equations and their graphs
2. Systems of linear equations
3. Functions
4. Quadratic functions
5. Exponential and logarithmic functions
6. Mathematics of finance
7. Matrix algebra
8. Linear programming
9. Basic concepts of probability

### REFERENCES. RESOURCE, OR LEARNING MATERIAL TO BE USED BY THE STUDENT:

(May be unique for each campus)

Each student will be required to have a calculator and a textbook adopted by the Mathematics Department at the specific campus. Students may also be required to use computer software packages and the World Wide Web.

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**SYSTEM APPROVAL:** Dr. Sutin

**START YR/TERM:** \_\_\_\_\_ **DATE:** 07/13/06 **SIGNATURE:** \_\_\_\_\_  
Community College Allegheny County #CRS10/9