COURSE PREFIX/NO:	**MAT 122**
COURSE TITLE:	**Finite College Mathematics**
LEC HRS/WEEK:	3.0
LAB HRS/WEEK:	0.0
CREDIT HOURS/SEMESTER:	3.0

DISTANCE LEARNING ATTENDANCE/VA STATEMENT
TEXTBOOK INFORMATION

COURSE DESCRIPTION

This course includes the following topics: logic; sets; Venn Diagrams; counting problems; probability; matrices; systems of equations; linear programming, including the Simplex method and applications; graphs and networks.

COURSE COMPETENCIES

Upon successful completion of this course, the student should be competent to complete the following tasks:

Module 1: Properties of Linear Equations and Linear Inequalities

- Plot ordered pairs on a Cartesian plane and graph linear equations.
- Find the slope of a line given two points on a line.
- Find the slope of a line given a linear equation.
- Calculate the intersection point of a pair of lines.
- Graph the feasible set for a system of linear inequalities.
- Determine the coordinates of the vertices of a feasible set given a system of inequalities.
- Find graphical solutions to linear programming problems.

Module 2: Matrices and Linear Programming

- Solve a system of equations by the Gaussian Elimination method.
- Perform matrix addition, subtraction and multiplication.
- Find the inverse of a matrix.
- Solve linear programming problems using the Simplex method.

Module 3: Sets and Counting

- List elements of unions, intersections, and complements of sets.
- Illustrate intersections, unions, and complements of sets using Venn Diagrams.
- Solve counting problems by using permutations and combinations.
- Raise a binomial expression to the nth power using the Binomial Theorem.

Module 4: Probability

- Find the sample space for a given experiment and assign probabilities to all outcomes.
- Determine if two events are mutually exclusive (disjoint).
- Find the conditional probability of an event.
- Find the probability of the intersection of two events.
- Determine whether two events are independent or dependent.

Module 5: Logic and Circuits

- Determine if a sentence is a statement.
- Determine the truth value of a statement.
- Identify the loop, the parallel edges, and the degree of the vertices of a graph.
- Determine the length of a path and whether it is a simple path, a closed path, a circuit, or a simple circuit.

ACADEMIC INTEGRITY

Students are bound by the policies stated in the York Technical College Catalog and Handbook. A student violating these policies will be subject to academic discipline.

MINIMAL STANDARDS

An average of 60% is required for a grade of D for this course. Most colleges require a C (at least a minimum of a 70% average) to accept this course as a transfer course.

EVALUATION STRATEGIES/GRADING

The final course grade will be determined by a student's performance on the combination of five module grades plus a final exam. Each module grade may be comprised of objective test questions, subjective test questions, homework, individual or group projects, quizzes, etc., as required by the instructor. Each module will be evaluated as 16% of the final grade. The final exam will be evaluated as 20% of the final grade.

Grading Scale

A	90−100
B	80−89
C	70−79
D	60−69
F	Below 60

COURSE REQUIREMENTS

See the York Technical College Catalog and Handbook for attendance, withdrawal, and student conduct policies.

ENTRY- LEVEL SKILLS
Students entering this course must have a good working knowledge of college algebra.

PREREQUISITE COURSES – MAT 110 College Algebra or equivalent.

CO-REQUISITES – None

Disability Statement: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Office (SRO) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.

EFFECTIVE DATE: SP2007