

COURSE PREFIX/NO:	<b>MAT 150</b>
COURSE TITLE:	<b>Fundamentals of Mathematics</b>
LEC HRS/WEEK:	3.0
LAB HRS/WEEK:	0.0
CREDIT HRS/SEMESTER:	3.0

[Distance Learning Attendance/VA Statement](#)  
[Textbook Information](#)

## **COURSE DESCRIPTION**

This course includes the following topics: elementary number theory; basic algebra and geometry; English and SI measurements; ratio and proportions; statistics; and graph interpretation.

## **COURSE COMPETENCIES**

### **Module 1: Signed Numbers, Linear Equations, and Formulas**

- Simplify and evaluate numerical expressions using the rules for signed numbers and the order of operations
- Solve linear equations using the addition and multiplication properties of equality
- Solve linear equations using the distributive property
- Solve application problems that can be modeled with linear equations
- Solve linear equations that contain decimals and fractions
- Evaluate and rearrange formulas

### **Module 2: Ratio and Proportion, Powers and Polynomials, and Scientific Notation**

- Solve proportions with cross multiplication
- Solve applied problems that can be modeled with direct or inverse proportions
- Apply the laws of exponents to simplify algebraic expressions
- Perform basic operations with polynomials
- Convert numbers between scientific notation and ordinary notation
- Multiply and divide numbers in scientific notation

### **Module 3: Graphing and Measurement**

- Locate ordered pairs on a rectangular coordinate system
- Graph linear equations in two variables
- Determine x- and y-intercepts for linear equations
- Recognize, use, and calculate with metric units
- Convert measurements between the metric system and the US Customary system
- Measure distances with metric and U.S. Customary rules

### **Module 4: Geometry and Statistics**

- Find perimeters and areas of two-dimensional geometric figures
- Find volumes of three-dimensional geometric figures

- Read and interpret circle, bar, and line graphs
- Construct and interpret frequency distributions
- Find means, medians, modes, ranges, and standard deviations for sets of data

### **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 D in this course. A 70% average is recommended for enrollment in subsequent higher level mathematics courses.

### **EVALUATION STRATEGIES/GRADING**

The final course grade will be determined by the student's performance on the combination of the four module grades plus a final examination. Each module grade may be comprised of objective and/or essay type questions, homework, individual or group projects, quizzes, etc., as required by the instructor.

Each module will be evaluated as 20% of the final grade.

The final examination 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**

A student entering this course must be competent to perform the following tasks:

- Evaluate arithmetic expressions with integers, fractions, and decimals
- Solve problems using percents

**PREREQUISITE:** MAT 032 with minimum grade of "SC" or equivalent.

**COREQUISITES:** None