Department: Mathematics

Course Name: MAT-120 Mathematics for Liberal Arts

Date Updated: 7/2026

Credit Hours/week: 4 hrs./wk. – 4 cr.

BEGINNING: SUMMER 2026

Catalog Description: A course addressed to liberal arts students. Topics will include the history of mathematics, probability, statistics, geometry, number theory, algebra, graphs and functions and a choice of selected topics.

Prerequisite: MAT 006, MAT 007, or equivalent

Text: Angel, Abbott, Runde, A Survey of Mathematics with Applications, 12th ed. (2027, Pearson)

Supplementary Material: MyMathLab Student Access

Syllabus:

Period	Text Sections	Topics
1-3	4.1-2, 4.5	History of mathematics, ancient systems of numeration, early computational methods
4	5.1	Number theory
5-7	5.2-5.5	Integers, rational numbers, irrational numbers, real numbers, distributive property
8	5.6-5.7	Rules of exponents and scientific notation. Arithmetic and geometric sequences
9-10		Applications, Review, **Test 1**
11	6.1	Order of operations, solving linear equations
12	6.2-3	Formulas, applications of linear equations
13	6.6	Graphing of linear equations
14	6.7	Systems of linear equations
15-16	6.9	Factoring, solving quadratic equations, quadratic formula
17-18		Applications
19	8.1	History of geometry, points, lines, planes, angles
20	8.2	Polygons, similar figures
21-22		Review, **Midterm**
23	8.3	Perimeter, area, Pythagorean theorem
24	8.4	Volume, surface area
25-26	10.1, 10.2	Percents, applications of percents, personal loans and simple interest
27-28	10.3-10.4	Compound and credit card interest
29	10.5	Buying a house with a mortgage
30-31		Applications, Review, **Test 2**
32-34	11.1-11.3	Empirical and theoretical probability, odds, expected value
35-36	11.5-6	And/or problems, conditional probability
37-38	12.1-12.2	Introduction to statistics, misuses of statistics , frequency distributions, statistical graphs
39	12.3	Measures of central tendency, percentiles, quartiles
40	12.4	Measures of dispersion
41	12.5	Normal curves
42-43		Applications
44-45		Review, **Final Exam**

Students are expected to adhere to the policies of the County College of Morris. These can be accessed at: (insert link here)

Statement of Expected Course LEARNING OUTCOMES

- **Name** significant historical contributions in the development of mathematics.
- **Write** numbers and perform calculations using ancient systems of numeration.
- **Use** divisibility rules, prime factorization, the least common multiple and greatest common divisor to solve applied problems.
- **Perform** basic operations and solve problems using numbers in the real number system.
- **Use** formulas and solve applied problems in financial management and consumer math.
- **Identify and solve** problems involving arithmetic and geometric sequences.
- **Give** examples of misuses in statistics.
- **Compute** measures of descriptive statistics.
- **Use** basic rules of probability to calculate theoretical and empirical probabilities.
- **Calculate and solve** applied problems using geometrical formulas
- **Solve** linear equations in one variable and systems of two equations involving two variables.
- **Graph** linear equations involving one or two variables.
- **Solve** application problems using linear equations and systems of linear equations.
- **Solve** quadratic equations.