North Hennepin Community College

MATH 1120: College Algebra

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 0
Lab Hours/Week: 0
OJT Hours/Week: *.*

Prerequisites:
This course requires any of these five prerequisites
- Algebra College Level
- Placement into MATH 0920/0970/1010/1031/1130/1140
- MATH 0900 - Mathematical Literacy (Minimum grade: 1.67 GPA Equivalent)
- MATH 0980 - Pre College Algebra (Minimum grade: 1.67 GPA Equivalent)
- MATH 1130 - Elementary Statistics (Minimum grade: 1.67 GPA Equivalent)

Corequisites: MATH 0920

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

This class is designed for people who will benefit from more time and additional support to learn the content. It is designed to be taken at the same time as Math 920: College Algebra Support.

This class prepares students for Calculus I (Math 1221) when taken in sequence with Pre-Calculus (Math 1170). Students not planning to take Calculus I may want to consider taking a different math class such as Elementary Statistics (Math 1130), Finite Math (Math 1140), or Survey of Math (Math 1010). Topics include polynomial, rational, inverse, exponential, and logarithmic functions and their applications. Additional topics include systems of non-linear equations, systems of linear equations, and matrices.

B. COURSE EFFECTIVE DATES: 03/06/2023 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Find all real and complex zeros of polynomial functions (MnTC Goal 4: a; ELO 1, 2d).
2. Use the degree, leading coefficients, and multiplicities of zeros of a polynomial function to analyze graphs and equations (G4: a; ELO 1, 2d).
3. Find the composition of two functions (G4: a; ELO 1, 2d).
4. Use the equation of a circle to graph it. Be able to write the equation of a circle based on a graph or given information (G4: a; ELO 1, 2d).
5. Find the inverse of a function (G4: a; ELO 1,2d).
6. Evaluate the difference quotient using function notation (G4: a; ELO 1, 2d).
7. Solve exponential equations (G4: b, c; ELO 1, 2d).
8. Solve logarithmic equations using properties of logarithms (G4: b, c; ELO 1, 2d).
9. Solve applied problems with exponential and logarithmic functions (G4: b, d; G2: a, b, c; ELO 1, 2d).
10. Identify asymptotes and intercepts of rational functions, and use them to graph (G4: a; ELO 1, 2d).
11. Solve systems of non-linear equations in two variables (G4: b, c; G2: a, b, c; ELO 1, 2d).
E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 04 - Mathematical/Logical Reasoning

1. Illustrate historical and contemporary applications of mathematical/logical systems.
2. Clearly express mathematical/logical ideas in writing.
3. Explain what constitutes a valid mathematical/logical argument (proof).
4. Apply higher-order problem-solving and/or modeling strategies.

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted