

# North Hennepin Community College

## MATH 0980: Pre College Algebra

### A. COURSE DESCRIPTION

Credits: 5

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites:

This course requires any of these four prerequisites

A score of 0 on test Accuplacer College Level Math

A score of 55 on test Accuplacer Elementary Algebra

MATH 0901 - Introduction to Algebra (Minimum grade: 1.67 GPA Equivalent)

MATH 0900 - Mathematical Literacy (Minimum grade: 1.67 GPA Equivalent)

Corequisites: None

MnTC Goals: None

This course is a thorough treatment of the algebra necessary for success in college-level math classes and is a prerequisite for Math 1150, Math 1140, Math 1130, Math 1010, and Math 1031. A student who earns an A in this class can also petition for permission to use it as a prerequisite for Math 1180. Topics covered include solving linear equations and inequalities, graphing linear equations, integer and rational exponents, radicals, complex numbers, polynomial algebra, polynomial factoring, rational expression algebra, introduction to functions and graphs of functions, quadratic equations and inequalities, graphing quadratic equations, and systems of linear equations. Additional topics may include exponential and logarithmic functions and their graphs. This course emphasizes applications of all topics and the acquisition of by-hand skill. Credit does not apply to a degree.

Prerequisite: Placement Test or or successful completion of Math 0901 with grade of "C" or better

**B. COURSE EFFECTIVE DATES:** 05/13/2011 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. This course is designed for students who are mathematically confident, with a stronger background in mathematics than other developmental math students. These should be students who are hoping to pursue a STEM major and who will need a strong algebra manipulation background to succeed in future science, technology, engineering, and mathematics courses. Though other topics are covered the emphasis throughout the course should be on algebra, functions, and graphing.

#### **D. LEARNING OUTCOMES (General)**

1. Solve linear equations and inequalities in one variable (ELO 1, 2);
2. Solve application problems involving the use of linear equations and inequalities (ELO 1, 2);
3. Determine if an equation or graph represents a function and use function notation (ELO 1, 2)
4. Graph linear equations and inequalities in two variables (ELO 1, 2);
5. Calculate and interpret the slope of a line (NHCC ELO 1, 2);
6. Use and identify various forms of equations of lines (ELO 1, 2)
7. Solve systems of linear equations (ELO 1, 2 );
8. Solve application problems using systems of linear equations (ELO 1, 2);
9. Add, subtract, multiply, divide, and simplify algebraic expressions containing radicals and rational exponents (ELO 1, 2);
10. Use rules of integer exponents to evaluate and simplify expressions (ELO 1, 2);
11. Add, subtract, and multiply polynomials (ELO 1, 2);
12. Factor polynomials (ELO 1, 2);
13. Find real and complex solutions to quadratic and polynomial equations (ELO 1, 2);
14. Graph quadratic functions (ELO 1, 2);
15. Add, subtract, multiply, and divide rational expressions (ELO 1, 2);
16. Simplify rational expressions and complex fractions (ELO 1, 2);
17. Solve rational equations (ELO 1, 2);
18. Use properties of exponents and interpret rational exponents (ELO 1, 2);
19. Solve equations involving radicals or rational exponents (ELO 1, 2);
20. Solve equations and inequalities involving absolute value (ELO 1, 2).

#### **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

None

#### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

#### **G. SPECIAL INFORMATION**

1. Knowledge of Human Cultures and the Physical and Natural World -Through study in the sciences, mathematics, social sciences, humanities, histories, languages, the arts, technology and professions.
2. Intellectual and Practical Skills - Including: Inquiry and analysis; Critical and creative thinking; Written and oral communication; Quantitative literacy; Information literacy; Teamwork and problem solving.