

Minnesota State College Southeast

MATH 1220: College Algebra

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites:

This course requires any of these seven prerequisites

MATH 1025 - Algebra

MATH 1555 - Algebra

A score of 1158 on test MN Comprehensive Assessment Math

A score of 22 on test ACT Math

A score of 50 on test Accuplacer College Level Math

A score of 530 on test SAT Math Composite

A score of 250 on test Accuplacer NG Advanced Algebra Functions

Corequisites: None

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

This course covers functions, graphs, exponents and logarithms, inequalities, application problems, matrices and determinants, sequences and series, and the binomial theorem. (Fulfills MnTC Goal 4)
(Prerequisite: A minimum score of 50 in the college level math section of the ACCUPLACER basic skills test or a minimum score of 22 on the math subject area of the ACT test or successful completion of MATH1025) (3 credits: 3 lecture/0 lab)

B. COURSE EFFECTIVE DATES: 07/20/2016 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Functions
2. Graphs of nonlinear equations
3. Exponents and logarithms
4. Algebra of matrices
5. Sequences and series
6. Binomial theorem

D. LEARNING OUTCOMES (General)

1. Solve equations with complex number solutions
2. Differentiate relations and functions
3. Define, test, and graph functions
4. Identify even and odd functions
5. Translate, reflect, and shrink or stretch graphs
6. Create and evaluate composite functions
7. Solve for maximum and minimum values of polynomial functions
8. Evaluate zeros of polynomial functions
9. Find asymptotes of rational functions
10. Define and evaluate inverse functions
11. Solve, graph, and convert exponential and logarithmic functions
12. Solve parabolic equations for vertex, focus, and directrix and graph
13. Evaluate matrices including Gaussian elimination, addition, subtraction, multiplication, inverse matrices, and determinants
14. Evaluate arithmetic and geometric series and sequences
15. Evaluate and expand binomials using the binomial theorem and Pascal's triangle

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. Apply higher-order problem-solving and/or modeling strategies.

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

This course was previously MATH 2520.