MATH 6200: Structures of Discrete Mathematics

A. COURSE DESCRIPTION

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

Prerequisites:
MATH 6061 - Number Sense For Teachers

Corequisites: None

MnTC Goals: None

Topics include problem solving, the counting principle, combinations, permutations, graphs, Euler circuits, Hamiltonian paths, Pascal's triangle, Venn diagrams, scheduling, and voting theory. Students are expected to use the concepts and methods of discrete mathematics to model and solve problems. Emphasizes instructional strategies to help all students learn. Prerequisite: MATH 6061.

B. COURSE EFFECTIVE DATES: 01/08/2021 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Structures of Discrete Mathematics

D. LEARNING OUTCOMES (General)

1. define what discrete mathematics is.
2. use problem solving to explore counting principles, combinations, and permutation.
3. explore topics of graph theory including tree graphs (linking counting and graceful tree conjecture), Euler circuits, Hamiltonian paths.
4. investigate topics of voting theory.
5. examine questions related to set theory.
6. use concepts and methods of discrete mathematics to engage in modeling and problem solving.

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted