MTH 244: Discrete Structures II

This is a continuation of MTH 243, Discrete Structures I. Topics include: advanced counting problems; relations; graph theory; Boolean algebra; and languages and grammars. Prerequisite(s): a grade of C- or higher in MTH 243. Three lecture hours per week.

Course Student Learning Outcomes

1. Solve basic counting problems, including those using the Pigeonhole Principle.
2. Work with permutations, combinations and manipulate various binomial identities.
3. Understand the inclusion-exclusion principle and apply it to real-world problems.
4. Gain knowledge in the basic understanding of relations.
5. Develop an understanding of graph theory including directed and undirected graphs as well as trees and their applications to computer science.

6. Understand the concept of Boolean functions and its application to circuits.

Credits: 3
Program: Mathematics