Marshall University
College of Science
Mathematics Department

MTH 220: Discrete Structures

Course catalog description
Sets, relations, directed and undirected graphs, monoids, groups, lattices, Boolean algebra, and propositional logic.

Credit hours
3 hours

Prerequisites
ACT Math 27, or a grade of C or higher in MTH132, MTH229, or IST131.

List of topics
• Symbolic logic. Connectives, truth tables, Venn diagrams.
• Proof. Direct proof, proof by contradiction. Mathematical induction
• Relations and Functions.
• Trees and Graphs. Tree traversals. Spanning trees.

Course objectives
• Provide opportunities for students to explore the fundamental ideas of discrete mathematics.
• Prepare students to mathematically model situations and creatively solve problems for which they may never have seen examples.
• Prepare students to decide when and what technology is appropriate to solve a problem.
• Provide opportunities for students to communicate mathematical ideas in written and oral forms.
• Provide opportunities for students to read and interpret mathematical ideas independently.
• Prepare students to write their own proofs by initially providing opportunities for students to read and interpret proofs generated by others.
• Provide a historical perspective on the development of the material

Suggested textbooks


Last updated
March 2014