

Summary of Content

Preliminaries

- Basic Logic and Number Systems
 - Statements, Connectives, and Truth Tables
 - Conditional Statements
 - Logical Equivalencies and Identities
 - Number Systems, Quantifiers, and their Negations

Proof Techniques

- Deduction
 - Direct Proofs and Counterexamples
 - Proofs by Contrapositive and Contradiction
 - Proofs of Conditionals with Disjunctions
- Induction

Mathematical Concepts

- Sets
 - Basic Concepts
 - Set Relationships
 - Set Operations
 - Indexed Sets
- Functions
 - Basic Concepts
 - Injections and Surjections
 - Inverses and Compositions
 - Cardinality
- Relations
 - Equivalence Relations
 - Equivalence Classes