Outline:

- Propositional Logic

- Propositional Equivalences

- Predicates and Quantifiers

- Nested Quantifiers

- Rules of Inference

- Introduction to Proofs

- Proof Methods and Strategies

- Sets

- Set Operations

- Functions

- Sequences and Summations

- The Growth of Functions

- Mathematical Induction

- Strong Induction and Well-ordering

- Recursive Definitions and Structural Induction

- The Basics of Counting

- The Pigeonhole Principle

- Recurrence Relations

- Solving Linear Recurrence Relations

- Divide and Conquer Algorithms

- Graph Theory

- Trees