Objectives:
To familiarize students with the basics of sets and set theory.

Reading Assignment:
Rosen: Chapter 1.4 – 1.8

Contents:
1. Logic - Implications
2. Sets – Introduction to Sets
3. Sets – Representation
4. Sets – Basics of Sets
5. Sets – Mathematical Reasoning
1. Implications
   - implications (tautologies) of propositional logic
2. **Sets** - Introduction to Sets
   - What is a set
   - Set Membership
3. Sets – Representation
   - Representation of a set
   - Listing members of a set
   - Properties for membership
   - Recursive definitions
4. Sets – Basics of Sets
   - Equality of sets
   - Subsets, Proper subset
   - Empty set
   - Universal set
   - Power set
5. Sets – Mathematical Reasoning
   - Axiom
   - Theorem
   - Proof / Inference
   - Trivial Proof
   - Vacuous Proof
   - Proof by contrapositive
   - Proof by contradiction