

# IS 2150 / TEL 2810

## Introduction to Security



James Joshi  
Associate Professor, SIS

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Mathematical Review  
Security Policies



# Objective

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- Review some mathematical concepts
  - Propositional logic
  - Predicate logic
  - Mathematical induction
  - Lattice



# Propositional logic/calculus

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- Atomic, declarative statements (propositions)
  - that can be shown to be either TRUE or FALSE but not both; E.g., "Sky is blue"; "3 is less than 4"
- Propositions can be composed into compound sentences using connectives
  - Negation  $\neg p$  (NOT) highest precedence
  - Disjunction  $p \vee q$  (OR) second precedence
  - Conjunction  $p \wedge q$  (AND) second precedence
  - Implication  $p \rightarrow q$   $q$  logical consequence of  $p$
- Exercise: Truth tables?