

## March 6, 2019 Outline

**Reading:** *text*, §18

**Assignments:** Homework 4, due March 8, 2019

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1. Isolation: program modification
  - a. Loading
2. Covert channels
  - a. Storage vs. timing
  - b. Noise vs. noiseless
  - c. Existence
  - d. Bandwidth
3. Covert channel detection
  - a. Shared Resource Matrix Model
  - b. Information flow analysis
  - c. Covert flow trees
4. Shared resource matrix methodology
  - a. Identify shared resources, attributes
  - b. Operations accessing those attributes
  - c. Building the matrix
  - d. Issues about the methodology
5. Information flow analysis
  - a. Direct, indirect flows
6. Covert flow trees
  - a. Goals, symbols
  - b. Construction of covert flow trees
  - c. Analysis
  - d. Example