

## March 5, 2014 Outline

**Reading:** §17

**Assignment due:** Homework #4, due March 17, 2014 (*no lates!!!*)  
Project, due March 21, 2014

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1. Covert channels
  - a. Storage vs. timing
  - b. Noise vs. noiseless
  - c. Existence
  - d. Bandwidth
2. Covert channel detection
  - a. Shared Resource Matrix Model
  - b. Information flow analysis
  - c. Covert flow trees
3. Shared resource matrix methodology
  - a. Identify shared resources, attributes
  - b. Operations accessing those attributes
  - c. Building the matrix
  - d. Issues about the methodology
4. Capacity
  - a. When is bandwidth of covert channel 0?
  - b. Analysis
  - c. Measuring capacity
5. Mitigating covert channels
  - a. Preallocation and hold until process terminates
  - b. Impose uniformity
  - c. Randomize resource allocation
  - d. Efficiency/performance vs. security