

## Lecture 8: April 16, 2021

**Reading:** *text*, §27.2, 2, 3.1–3.2

**Assignments:** Homework 2, due April 21, 2021  
Lab 1, due April 19, 2021

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1. The models and levels of abstraction
2. Representing attacks
  - (a) Requires/provides model
  - (b) Attack graphs
3. Access Control Matrix
  - (a) Commands and conditions: create•file, various flavors of grant•right to show conditions and nested commands
  - (b) Copy flag, own rights
  - (c) Principle of attenuation of privilege
4. Decidability of security
  - (a) Notion of leakage in terms of ACM
  - (b) Determining security of a generic system with generic rights and mono-operational commands is decidable
  - (c) Determining security of a generic system with generic rights is undecidable (HRU result)
  - (d) Meaning: can't derive a generic algorithm; must look at (sets of) individual case