1. Inferring causality

2. Observational studies and third variable explanations
   (a) Retrospective (e.g., case-control)

   (b) Prospective (e.g., cohort)

3. Randomized, comparative experiments
   (a) Explanatory variable (factor, levels)

   (b) Response variable

   (c) Treatment

   (d) Subjects, experimental units

   (e) Random assignment to treatments – why?

4. The four principles of experimental design
   (a) Control

   (b) Randomize

   (c) Replicate

   (d) Block

**Homework**

1. Read Chapter 13, pages 316–328.

2. Practice problems (due Monday, March 1) 13.1, 3, 5, 7, 9, 11, 13, 43

3. Problems to turn in (due Tuesday, March 2) 13.38, 42