### TOPIC (approximate # lectures) | READING
---|---
1. INTRODUCTION AND REVIEW (2) | B&D: Ch. 2; B&D: 3.4
   - Introduction to Statistical Models
   - Measures of Disease Occurrence & Association
   - Classical Confounding

2. LOGISTIC REGRESSION AND MSMs (12) | B&D: 6.1; 6.2; H&L: 6.2, 3.2
   - Simplest Models in Cohort Studies
   - Extension to Case/Control Studies
   - Using STATA to Fit Logistic Regression Models
   - General Logistic Model
   - Estimators and Test Statistics
   - Exposure Variable Models
   - Regression Splines
   - Effect Modification on the Multiplicative Scale
   - Additive and Multiplicative Interaction Models
   - Causality and Conditional vs. Marginal Models
   - Categorical Confounder Adjustment Using Regression
   - Continuous Confounder Adjustment Using Regression
   - Causal Diagrams and Confounding
   - Effects of Omitted Covariates
   - Confounder Adjustment Using Marginal Structural Models
   - Variable Selection & Model Choice
   - Advanced Coding Questions
   - Regression Diagnostics

3. LOGISTIC REGRESSION USING A CONDITIONAL LIKELIHOOD (3) | B&D: 7.1; 7.6; H&L: 7.1
   - Data Requiring Conditional Likelihood
   - Differences from Regular Logistic Regression
   - Applications: Ways Logistic Regression Extends Ordinary Matched Analysis
   - Using STATA to Fit Models Using the Conditional Likelihood
   - Goodness of Fit; Regression Diagnostics

   Handouts; H&L: 4.1, 4.2
   Handouts; H&L: Ch5; Collett
4. **SPECIAL TOPICS** (3) (some, but not all, of these, depending on time)

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