

Statistics
University of Maryland

Spring 2016

Sebastian Galiani

Lectures: MW 11:00 a.m.–12:15 p.m.

Summary: This course introduce students to statistical analysis and prepare students to conduct causal analysis in social sciences.

Course requirements: The course requirements are satisfactory completion of all problem sets, mid-term and final exams. There are 8 semiweekly problem sets planned, but this may be adjusted over the course of the semester.

Grading: Problem sets; midterm and final exams will each receive equal weight in the final course grade (1/3 to each one).

Textbook:

Main Text: A. Agresti and B. Finlay (2009): Statistical Methods for Social Sciences, Prentice Hall.

Other Texts:

D. Freedman, R. Pisani and R. Purves (2007): Statistics, Norton.

R. L. Ott and M. Longnecker (2010): An Introduction to Statistical Methods and Data Analysis, Brooks/Cole.

Reading List:

1. Overview

Agresti and Finlay, chapter 1.

Freedman, Pisani and Purves, chapters 1 and 2.

2. Sampling and Measurement

Agresti and Finlay, chapter 2.

3. Descriptive Statistics

Agresti and Finlay, chapter 3.

Freedman, Pisani and Purves, chapters 3, 4, 5, 6 and 7.

4. Probability Distribution

Agresti and Finlay, chapter 4.

Freedman, Pisani and Purves, chapters 13, 14 and 15.

5. Large Sample Properties

Freedman, Pisani and Purves, chapters 16 and 18.

6. Statistical Inference: Estimation

Agresti and Finlay, chapter 5.

Freedman, Pisani and Purves, chapter 17.

7. Statistical Inference: Significance Tests

Agresti and Finlay, chapter 6.

Freedman, Pisani and Purves, chapters 26, 27, 28 and 29.

8. Comparison of Two Groups

Agresti and Finlay, chapter 7.

9. Analyzing Association between Categorical Variables

Agresti and Finlay, chapter 8.

10. Linear Regression and Correlation

Agresti and Finlay, chapter 9.

Freedman, Pisani and Purves, chapters 8, 9, 10, 11 and 12.

11. Multivariate Regression

Agresti and Finlay, chapters 10 and 11.

12. Analysis of Variance (ANOVA) Methods

Agresti and Finlay, chapters 12 and 13.

Ott and Longnecker, chapters 14, 15 and 16.

13. Model Building with Multiple Regression

Agresti and Finlay, chapter 14.

14. Modeling Categorical Responses

Agresti and Finlay, chapter 15.