

SOCIOLOGY 311 RESEARCH METHODS

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TTh: 10:30-11:50
ETC 205
Spring 2009

Course description: This is a rigorous, workshop-based course designed to provide students with the basic skills for planning and conducting research in sociology. The course addresses comparative case study approaches, but focuses mainly on multi-variate analyses of quantitative data. Skills and topics covered include conducting literature reviews in sociology, locating and downloading data sets, descriptive statistics and exploratory data analysis, hypothesis testing and the logic of statistic inference, ANOVA, regression analysis and its extensions. Students will become familiar with STATA, an excellent data analysis program, and with three key sources of data: the General Social Survey, the Census, and the resources of the Inter-University Consortium for Political and Social Research.

This is a required course in sociology and is designed specifically to prepare junior sociology majors for the qual and senior thesis. Non-majors may take this course *provided* that they have taken Sociology 211, Introduction to Sociology.

Course assignments: There is some reading, but the bulk of the assignments involve taking notes, building your own textbook for the course, and locating, downloading and analyzing data. You will complete 13 weekly memo/problem set exercises, and a 10 page (text) final paper based on a multivariate analysis of a data set of your choosing. Weekly memos are assigned on Thursdays, and unless otherwise noted, are due by 3pm on the following Mondays. *I will only accept assignments via hard copy*, and not by email. I am not a print shop. *I do not accept late assignments.*

Books and materials: The assigned text is available for purchase at the bookstore and on reserve. It is expensive, but will be useful reference for this and other courses. Students have also found Berry and Sanders helpful as a primer on regression analysis.

Assigned Text: Alan Agresti and Barbara Finlay, *Statistical Methods for the Social Sciences*, 4th edition.

Recommended: W. Berry and M. Sanders, *Understanding Multivariate Research*

Other resources: Students will be also able to take advantage of four workshops and web-site resources developed by Dena Hutto, Andrew Rumbach and Marc Schneiberg as a part of the “Development of Research Competencies through Faculty-Library Collaboration” program funded by the Mellon Foundation. Information about web-site resources and their use will be presented in the library workshops listed below.

ASSIGNMENTS

GETTING STARTED

Week 1: (January 27, 29)

Framing the course: How do you know?

Conducting a literature review (Library workshop)

Memo #1: Literature review exercise, due Monday, February 2nd at noon.

CASES, VARIABLES AND CASE STUDIES

Week 2: (February 3, 5)

Method of Difference, Finding Qualitative Data

Theda Skocpol, “Emergent Agendas and Recurrent Strategies in Historical Sociology,” in Skocpol ed., *Vision and Method In Historical Sociology*. NY Cambridge University (on reserve)

Ann Orloff and Theda Skocpol. 1984. “Why Not Equal Protection? Explaining the Politics of Public Social Spending” *American Sociological Review* 49: 726-50 (available on J-Store)

Locating data for, case study and historical analysis (Library workshop)

Memo #2: Data Bibliography for a Qualitative Analysis

QUANTITATIVE ANALYSIS OF DATA SETS

Week 3: (February 10, 12)

Downloading and Describing data: Univariate Statistics, GSS and STATA

Agresti and Finlay, Chapter 3

Memo #3: Downloading and describing data

Week 4: (February 17, 19)

Bivariate Descriptive Statistics I: Chi-Square, ANOVA

Agresti and Finlay, Chapter 7, pp. 183-4, 191-95 (Difference of means);
Chapter 8, pp. 221-29, 233-39 (Chi-square);
Chapter 12, pp. 369-76 (ANOVA)

Memo #4: Analyzing bivariate relations, Chi-square and anova

Week 5: (February 24, 26)

Bivariate Descriptive Statistics II: Simple Regression

Agresti and Finlay, Chapter 9, pp. 255-76.

Berry and Sanders, *Understanding Multivariate Research* (Chs. 1-2, ch. 3; 44-5)

Memo #5: Simple regression exercise

Week 6: (March 3, 5)

Statistical Inference I: Sampling Distributions

Agresti and Finlay, Chapter 4

Memo #6: Probability statements about sample means

Week 7: (March 10, 12)

Statistical Inference II: Sampling Distributions and Confidence Intervals

Agresti and Finlay, Chapter 5, pp. 107-129

Memo #7: Confidence intervals (due Friday, March 13, by 2pm)

FALL BREAK, OCTOBER 14-22

Week 8: Tuesday (March 24)

Statistical Inference III: Hypothesis Testing, T-test for a Single Mean

Agresti and Finlay, Chapter 6, pp. 143-56, 159-66; also 166-9;

Memo #8: Hypothesis tests (the t-test), due Wednesday, March 25, 5pm

Week 8: Thursday (March 26)

Statistical Inference IV: Difference of Means, Chi-square, ANOVA, Regression

Agresti and Finlay, Chapter 7, pp. 183-97 (Difference of Means);
Chapter 8, pp. 221-29 (Chi-square);
Chapter 12, pp. 372-76 (ANOVA)
Chapter 9, pp. 276-88 (Regression)

Memo #9: Bivariate hypothesis tests, due Monday, March 30, 5 pm

Week 9: (March 31, April 2)

Locating and Downloading Data Sets II: Census and IPUMS, ICPSR

Library Workshops: No reading

Memo #10: Downloading data exercises

Week 10: (April 7, 9)

Locating and Downloading Data Sets: III

No reading

Memo #11: Research proposal: data set and dependent variables

Week 11: (April 14, 16)

Multiple Regression I: Multivariate Analysis, Controls, F-tests, Model Building

Agresti and Finlay, Chapter 10, Chapter 11, pp. 321-40, 345-46, 351-55
Berry and Sanders, *Understanding Multivariate Research* (Chs. 3, 5-6)

Memo #12: Multiple regression exercise

Week 12: (April 21, 23)

Multiple Regression II: Dummy Variables and Interaction Effects

Agresti and Finlay, Chapter 12, pp. 378-81; Chapter 11, pp. 340-44;

Chapter 12, 386-90; Chapter 13, pp. 413-26

Berry and Sanders, *Understanding Multivariate Research* (Ch. 6)

Memo #13: Dummy Variables, Interactions, due **Thursday in class**

Week 13-14: (April 28, 30)

Multiple Regression III: Interactions, Non-linearity, Logistic Regression

Agresti and Finlay, Chapter 14, pp. 462-73; Chapter 15, 483-93

Final Paper Workshops

****** FINAL PAPER DUE WEDNESDAY, MAY 6 AT 5PM ******