

# SOCIOLOGY 311 RESEARCH METHODS

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TTh: 1:10-2:40  
ETC 205  
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**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, unless otherwise noted. 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*, 4<sup>th</sup> 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 26, 28)

*Framing the course: How do you know?*  
*Conducting a literature review* (Library workshop)

**Memo #1:** Literature review exercise, due Monday, February 1<sup>st</sup> at noon.

### ***CASES, VARIABLES AND CASE STUDIES***

**Week 2:** (Wednesday, Feb 3 evening TBA, Thursday, Feb 4)

*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 9; Wednesday, February 10<sup>th</sup> evening, TBA)

*Downloading and Describing data: Univariate Statistics, GSS and STATA*

Agresti and Finlay, Chapter 3

**Memo #3** Downloading and describing data

**Week 4:** (February 18; **Saturday, February 20<sup>th</sup> at noon** (no class Feb 16<sup>th</sup> ))

*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 23, 25)

*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 2, 4)

*Statistical Inference I: Sampling Distributions*

Agresti and Finlay, Chapter 4

**Memo #6:** Probability statements about sample means

**Week 7:** (March 9, 11)

*Statistical Inference II: Sampling Distributions and Confidence Intervals*

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

**Memo #7:** Confidence intervals (due Friday, March 12, by noon)

**FALL BREAK, MARCH 12-21**

**Week 8: Tuesday** (March 23)

*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 24, 5pm

**Week 8: Thursday** (March 25)

*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 29, 5 pm

**Week 9:** (March 30, April 1)

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

Library Workshops: No reading

**Memo #10:** Downloading data exercises

**Week 10:** (April 6, 8)

*Locating and Downloading Data Sets: III*

No reading

**Memo #11:** Research proposal: data set, dependent variables, descriptive stats

**Week 11:** (April 13, 15)

*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 20, 22)

*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 27, 29)

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

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

*Final Paper Workshops*

**\*\*\*\* FINAL REPORT DUE SUNDAY, MAY 2 AT 10PM \*\*\*\***