



Outline of course on:

“Survey Research Methods”

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Surveys are one of the most important sources of data for researchers and their design and analysis is therefore a critical component of a researcher’s tool kit. This course provides an overview of the tools needed to design, implement, and analyze surveys. The first week of this course is designed to provide an introduction to methods of survey design and implementation, covering sampling, data collection methods, questionnaire design, and data quality control. The second week of this course focuses on the analysis of existing survey data and reporting of results, covering topics such as data cleaning and coding, descriptive statistics, hypothesis testing, data reduction techniques, multivariate regression of linear, binary, and categorical data, and measurement error and other sources of bias. The course includes both lecture-based instruction as well as hands-on practice in survey design. By the end of the course, students will be able to design their own survey and assess the quality of survey questions, evaluate various sampling strategies and in-field protocols, identify potential methodological challenges to data quality, and take raw survey output through the process of creating presentation quality reports and graphics. The course will cover methodological issues that arise in survey research, including sources of bias, measurement theory, and non-response. Students will also have the opportunity to pilot their own original survey to learn first-hand the challenges with question design, sampling, and data quality. This course is well suited for students planning to collect survey or public opinion data as well as students that work with existing survey data but desire tools to evaluate and address the quality of the data.

Readings:

Primary readings from the course will be derived from the two following books. Please complete all readings prior to the beginning of class.

Groves, R.M., Fowler, F.J. Jr., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2009). *Survey Methodology, 2nd Edition*. New York: Wiley.

Lohr, S. (2009). *Sampling: Design and Analysis*. Cengage.

Programming:

The course requires advanced knowledge of either Stata or R. Course materials will provide sample code in both of these softwares.

Class Structure:

Each day the class will be divided into two sessions: lecture and lab. The morning session will be devoted to lectures based on the readings and topics for the day. While these lecture sessions will focus on covering core material, they will also integrate interactive learning activities and discussions. The afternoon session will combine additional lecture as needed with lab sessions intended to apply the tools from the morning’s lecture and develop the programming skills necessary for implementation.

**Lab Sessions:**

For this course, the afternoon lab sessions will mostly focus on providing additional support for programming in R. They will also provide an opportunity to apply these skills to an in class assignment. Each day, students will be provided with a survey or data set of public opinion/survey data and will be asked to complete a series of tasks using this survey. By the end of the lab session, students will produce a set of analyses from this data.

Attendance:

Attendance at all classes is expected, including in afternoon lab sessions. The instructor must be notified ahead of time in the event that you are unable to attend.

Assessment:

The course will require the completion of a project and final problem set. Both will be due by Day 9 (June 14) at 8pm to the dropbox. The project will be presented on Day 10 in class. The project will involve writing and pre-testing of a short survey and the problem set will facilitate the implementation of survey data analysis tools.

The project requires you to design and pre-test a short survey on a topic of your choice. This survey must be informed by a research question and contain the relevant variables to evaluate your question and hypotheses. Students must submit both a draft of the survey and a short research write-up. For the survey draft, students must submit a document using track changes such that edits following pre-testing are visible. The "final" version should reflect the ready-to-field questionnaire. In addition to the drafting of the survey, you must submit a 3-5 page research proposal detailing your research question and relevant hypotheses and how the survey will help you address this question. In addition, this research proposal should also explain your survey methodology answering such questions as: Who is your target population? What is your sample frame? How will you identify and select respondents? What methodology will you use to collect data? Why? What issues do you anticipate and how will you deal with them? This write-up should also document how the survey questionnaire was pre-tested.

Additionally, students will be given a problem set at the end of class to submit alongside their final project. The problem set can be completed using either Stata or R and the final submission should include a write-up with responses and a well-documented script.

While the survey project must be completed individually, students are welcome to work with their peers on the problem set. The final write-up, however, must be completed on your own.

Course Outline:**Day 1 – Introduction to Survey Methods, Ethics, and Research Design**

Lecture Topics: Introduction to survey methodology; steps to conducting a survey; key concepts of survey methodology; research ethics; informed consent; privacy and confidentiality; principles of research design

Readings: Groves et al. Chapters 2 and 11

[Gary King, Robert O. Keohane and Sidney Verba. *Designing Social Inquiry*. Princeton: Princeton University Press. 1994. ch. 1.](#)



Day 2 – Sample Frames

Lecture Topics: Probability sampling; sampling frames; simple random sampling; stratification; cluster and multistage sampling; selection weights; sampling errors; coverage error

Readings: Groves et al. Chapters 3 and 4

Verba, S., Scholzman, K., Brady, H. & Nie, N. (1993). "Citizen activity: Who participates? What do they say?" *American Political Science Review* 87 (2): 303. (Particular attention to Appendix A)

Supplemental Readings: Lohr Chapters 2, 3, and 5

Day 3 – Instrument Development

Lecture Topics: Response behavior; comprehension; estimation and judgment; question wording and structure; context; questionnaire pretesting

Readings: Groves et al. Chapters 7 and 8

EGAP, [10 Things to Know about Survey Design](#)

Schaeffer, N. C., & Dykema, J. (2011). "Questions for surveys: current trends and future directions." *Public opinion quarterly*, 75(5), 909-961.

Day 4 – Methods of Data Collection

Lecture Topics: Modes of data collection including face-to-face, telephone, self-administered, administrative records, and online; web surveys; nonresponse; contacting and engaging respondents

Readings: Groves et al. Chapters 5 and 6

Tourangeau, R., Conrad, F. & Couper, M. (2013). Chapter 2: Sampling and coverage issues for web surveys. *The Science of Web Surveys*, Oxford University Press: New York.

Boas, T., Christenson, D. & Glick, D. (2018). "Recruiting Large Online Samples in the United States and India: Facebook, Mechanical Turk and Qualtrics." *Political Science Research and Methods*.

EGAP, [10 Things to Know about Survey Implementation](#)

Day 5 – Survey Interviewing and Quality Control

Lecture Topics: Hiring and training of interviewers; evaluation of interviewer performance; management of data collection; data validation; data quality protocols; high frequency checks; back checks

Readings: Groves et al. Chapter 9

IPA, Back Check Manual

JPAL, Quality Control manual



Day 6 – Data Processing and Reduction

Lecture Topics: Data manipulation; factors; indicators; principal components analysis; univariate statistics; data security

Readings: Statistics and Econometrics: Methods and Applications, by Ashenfelter, Levine, and Zimmerman, Wiley, 2003. Chapters 3 and 7.
John Fox, Applied Regression Analysis and Generalized Linear Models, Chapter 4.

Day 7 – Multivariate models of survey data

Lecture Topics: Linear regression; logistic regression; ordinal regression; categorical regression

Readings: John Fox, Applied Regression Analysis and Generalized Linear Models, Chapters 5 and 14.

Suggested Readings: Statistics and Econometrics: Methods and Applications, by Ashenfelter, Levine, and Zimmerman, Wiley, 2003. Chapters 9, 11, and 16.

Day 8 – Dealing with non-response

Lecture Topics: Survey non-response, item non-response; missing data; imputation

Readings: Groves et al. Chapter 6

Lohr Chapters 8 and 15

Fricker, S., & Tourangeau, R. (2010). "Examining the relationship between nonresponse propensity and data quality in two national household surveys." *Public Opinion Quarterly*, 74(5), 934-955.

Day 9 – Survey Weights

Lecture Topics: Sampling frames; survey weights; post-stratification

Readings: Groves et al. Chapter 10

Lohr Chapters 4 and 11

Andrew Gelman's 2016 Blog Post: [Brexit polling: What went Wrong?](#)

Recommended Readings: Lohr Chapters 7 and 10

Day 10 – Data presentation and visualization

Lecture Topics: Graphs; tables; scatterplots; maps

Readings: John Fox, Applied Regression Analysis and Generalized Linear Models, Ch. 3

[Andrew Gelman and Antony Unwin. "Infovis and statistical graphics: Different goals, different looks"](#)

[Andrew Gelman and Antony Unwin. "Tradeoffs in information graphics."](#)