

SURV 400: Fundamentals of Survey Methodology

Thursdays, 12:00 to 2:45 p.m. 1218 LeFrak Hall

<p>Coordinator: David Cantor davidcantor@westat.com 1218 LeFrak Hall 301 294-2080</p>	<p>Additional Instructors: Fred Conrad fconrad@umich.edu <i>(weeks 9 and 10)</i> Carla Maffeo maffeo1@westat.com <i>(week 15)</i> Jill Montaquila montaj1@westat.com <i>(week 3, 14)</i> David Morganstein DavidMorganstein@westat.com <i>(weeks 2 and 4)</i></p>
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Prerequisites: Graduate student status, advanced special student status, or permission of instructor is required in order to register. In addition, students in this course are expected to have taken STAT 100 or equivalent coursework (or obtain permission of instructor).

This course does not fulfill any requirements of the MS or PhD degree in survey methodology. The course is a component of the JPSM Citation in Introductory Survey Methodology and the UMD Graduate Certificate in Intermediate Survey Methodology (see www.jpsm.umd.edu for details).

1. Overview of the Course

The field of survey methodology draws on theories and practices developed in several academic disciplines — mathematics, statistics, psychology, sociology, computer science, and economics. To become an accomplished professional in the survey research field requires a mastery of research literatures as well as experience designing, conducting, and analyzing surveys.

This course introduces the student to a set of principles of survey design that are the basis of standard practices in the field. The course exposes the student to research literatures that use both observational and experimental methods to test key hypotheses about the nature of human behavior that affect the quality of survey data. It will also present important statistical concepts and techniques in sample design, execution, and estimation, as well as models of behavior describing errors in responding to survey questions. Thus, both social science and statistical concepts will be presented.

The course uses the concept of total survey error as a framework to discuss coverage properties of sampling frames, alternative sample designs and their impacts on standard errors of survey statistics, alternative modes of data collection, field administration operations, the role of the survey interviewer, impacts of nonresponse on survey statistics, the effect of question structure, wording and context on respondent behavior, models of measurement error, postsurvey processing, and estimation in surveys.

The course is intended as an introduction to the field, taught at a graduate level. Lectures and course readings assume that students understand basic statistical concepts (at the level of an undergraduate course) and have exposure to elements of social science perspectives on human behavior. For those lacking such a background, supplementary readings are recommended.

2. Format of the Course

The course has five main components:

- (1) Lectures on Thursdays, 12:00 – 2:45 pm
These will be formal introductions of the material to students, presented by experts in each of the areas of the field.
- (2) Readings
These are companions to the lectures that give the student a fuller discussion of key concepts and research findings. Except for the first class, readings should be completed prior to the lecture covering their material.
- (3) Exercises
Each component of the course will have a short exercise that each student will complete in order to develop further integration of the knowledge presented in lectures and readings.
- (4) Mid-term Examination
The mid-term examination will cover the first half of the term and be administered in class on March 12.
- (5) Final Examination
The final examination will be an in-class examination covering the second half of the term.

3. Grading

Grading will be based on evaluation of exercises, the mid-term examination, and the final examination, using the following weighting: 33% exercise grades, 33% mid-term examination grade, and 33% final examination grade. For students whose average grade is on the boundary of two grades, class participation will be used to set the final grade.

4. Readings

The readings for this course will be available in three forms – two books for purchase in the bookstore, one pamphlet which will be provided free of charge to the class and several articles that will be available electronically.

Textbooks: There are two required texts for the course:

Groves, R., Fowler, F., Couper, M., Lepkowski, J., Singer, E., and Tourangeau, R. (2004), *Survey Methodology*, Wiley.

Converse, J. and Presser, S., *Survey Questions: Handcrafting the Standardized Questionnaire*, Newbury Park: Sage Publications, 1986.

These will be available in the campus bookstore. There will also be one booklet provided free of charge:

American Association for Public Opinion Research. 2000. *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys*. Ann Arbor, Michigan: AAPOR.

In addition, there will be a few additional readings (articles or book chapters) that will be made available electronically.

5. Important Information about Lecture Notes, Exercises, and Submission of Homework

There is a web site for this class: www.jpsm.umd.edu/surv400

On the website, you will find:

- the lecture notes for each week's class, and
- the exercise for each week's class.

It is your responsibility to download the lecture notes (should you want them) prior to each week's class – many students find these helpful in terms of following the lecture and taking notes. Lecture notes will be made available at least 24 hours before the class period.

It is also your responsibility to download the exercise for each week – this will be posted by the end of the class period each week. **Note that there is an exercise due every week, except for the weeks of the midterm and final exams. All exercises are to be submitted electronically via email to the instructor and teaching assistant.** The exercises are due by 5pm the Monday after they are assigned; we will provide feedback regarding the graded assignments at the start of the next class meeting.

6. Class Schedule

Week 1: January 28 – Overview (Cantor) - CP

Lecture:

Moving concepts to measures in survey design
Steps of the process of a survey
Key concepts and principles of survey quality

Readings:

Survey Methodology, Chapters 1 and 2

Exercise 1 posted on web site (by the end of the class) – due Monday, February 2

Week 2: February 4 – Sampling (Morganstein) -- Census

Lecture:

- Probability sampling
- Simple Random Sampling
- Systematic sampling
- Stratification

Readings:

Survey Methodology, Chapter 3

Exercise 2 posted on web site – due Monday, February 9th

Week 3: February 11 – Sampling (Montiquila) -- CP

Lecture:

- Cluster and multistage sampling
- Other probability designs
- Sampling frames

Readings:

Survey Methodology, Chapter 4 (4.1—4.6)

Exercise 3 posted on web site – due Monday, February 16th

Week 4: February 18 – Sampling (Morganstein) -- Census

Lecture:

- Selection weights
- Computing sampling errors
- Examples of sample designs

Reading:

Survey Methodology, Chapter 4 (4.7—4.9)

Exercise 4 posted on web site – due Monday, February 23th

Week 5: February 25 – Mode of data collection (Cantor) - CP

Lecture:

- Face to face
- Telephone
- Self-administered
- Administrative records
- Impact of computer assistance

Reading:

Survey Methodology, Chapter 5

Exercise 5 posted on web site – due Monday, March 2nd

Week 6: March 4 – Computer-Assisted Data Collection (Cantor) Census

Lecture:

Various means of computer assisted data collection; impact on data quality

Reading:

Couper, M.P. and Nicholls, W.L. (1998), "The History and Development of Computer Assisted Survey Information Collection." Chapter 1 in Couper, M.P., Baker, R.P., Bethlehem, J., Clark, C.Z.F., Martin, J., Nicholls II, W.L., and O'Reilly, J. (eds.), *Computer Assisted Survey Information Collection*. New York: Wiley.

Exercise 6 posted on web site – due Monday, March 9th

Week 7: March 11 – Midterm Exam

This is an in-class examination, open-book, open-notes, covering the material through the lecture on March 10. The examination is designed to be completed in 1 hour, but you will be given the entire period 12:00 – 2:45 PM to complete it.

Week 8: March 18 – Spring Break – no class

Week 9: March 25 – Questions and Answers in Surveys (Conrad) at CP

Lecture:

Overview of response behavior
comprehension
memory search
judgment
delivery of response

Reading:

Survey Methodology, Chapter 7

Bradburn, N., Rips, L, and Shevell, S. "Answering Autobiographical Questions: The Impact of Memory and Inferences on Surveys." *Science*, 1987, 236: 157-161.

Exercise 7 posted on web site – due Monday, March 30th

Week 10: April 1 – Interviewing (Conrad) at CP

Lecture:

- Recruiting and hiring of interviewers
- Interviewer training
- Evaluation of interviewing performance

Reading (Interviewing):

Survey Methodology, Chapter 9

Exercise 8 posted on web site – due Monday, April 6th

Week 11: April 8 – Questionnaire Development (Cantor) at Census

Lecture:

- Research findings on question wording, structure, and context

Reading:

Converse, J. and Presser, S., *Survey Questions: Handcrafting the Standardized Questionnaire*, Newbury Park: Sage Publications, 1986.

Exercise 9 posted on web site – due Monday, April 13th

Week 12: April 15 – Pretesting (Cantor) at Census

Lecture:

- Focus groups
- Cognitive interviews
- Expert review
- Pretests
- Pilot tests

Reading:

Survey Methodology, Chapter 8

Exercise 10 posted on web site – due Monday, April 20st

Week 13: April 22 – Data collection and Nonresponse (Cantor) – at Census

Lecture:

- Contacting sample units
- Gaining the cooperation of sample units
- Monitoring the progress of data collection

Reading:

American Association for Public Opinion Research. 2000. *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys*. Ann Arbor, Michigan: AAPOR.

Survey Methodology, Chapter 6

Exercise 11 posted on web site – due Monday, April 27th

Week 14: April 29 – Post-Survey Processing; Estimation (Montaquila) at Census

Lecture:

- Editing data
- Imputation
- Construction of unit weights
- Variance estimation

Reading:

Survey Methodology, Chapter 10

Exercise 12 posted on web site – due Monday, May 4th

Week 15: May 6 – Survey Management (Maffeo) at CP

Lecture:

- survey organizations
- management of data collection effort
- costs
- management tools

Reading:

Weinberg, Eve (1983) “Data Collection: Planning and Management” (Chapter 9) in P. Rossi, J. Wright, and A. Anderson (eds.), *Handbook of Survey Research*. San Diego: Academic Press, pp. 329-358.

Survey Methodology, Chapter 12

Week 16: May 13 – In-class examination

This will be an in-class examination covering material presented after the first examination. It is designed to be completed in 1 hour but you will be given the entire time from 12:00 – 2:45 PM to complete the examination.