

**SURVMETH 988.229: Introduction to Survey Research Techniques**  
**Syllabus**  
**Summer 2018**  
(Last updated: May 8, 2018)

**Time:** 9:00 PM-4:00 PM, Monday-Friday, June 4 – June 8, 2018  
**Location:** TBD  
**Class website:** <https://umich.instructure.com/courses/218245>  
**Instructors:** Z. Tuba Suzer-Gurtekin, Institute for Social Research, U of Michigan,  
[tsuzer@umich.edu](mailto:tsuzer@umich.edu)  
**Office hours:** By appointment (please send an email message to set a time)

### **Overview of the Course**

Surveys continue to play an important role in addressing many kinds of problems about many kinds of populations stand-alone or as a part of an integrated information system. Application of the scientific principles underlying surveys depends on good understanding of theories and empirical research from disciplines such as psychology, sociology, statistics, and computer science. A set of principles and empirical research will be introduced through the Total Survey Error (TSE) framework. The principles include problem and hypothesis formulation, study design, sampling, questionnaire design, interviewing techniques, pretesting, modes of data collection, and data cleaning, management, and analysis. Students will be trained to determine major steps in data collection design and implementation and to refer to a literature to justify the steps. The course will also discuss team and project management in the context of survey research, identifying skillsets and technical language required. The course will also provide training in an important subset of skills needed to conduct a survey from beginning to end.

### **Readings**

Primary readings will be from the following volume, available at local bookstores:

Groves, R.M., Fowler, F.J. Jr., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2009). *Survey Methodology, 2<sup>nd</sup> Edition*. New York: Wiley. (available online: <http://mirlyn.lib.umich.edu/Record/006868217>)

In several weeks, readings will also be drawn from the following short, paperback books which are recommended for purchase:

Converse, J., & Presser, S. (1986). *Survey Questions: Handcrafting the Standardized Questionnaire*. Newbury Park: Sage Publications. (available online: <http://mirlyn.lib.umich.edu/Record/012841736>)

Kalton, G. (1983). *An Introduction to Survey Sampling*, Beverly Hills: Sage Publications. (available online: <http://mirlyn.lib.umich.edu/Record/012841441>)

Fowler, F., & Mangione, T. (1990). *Standardized Survey Interviewing*, Newbury Park: Sage Publications. (available online: <http://mirlyn.lib.umich.edu/Record/012841712>)

**Attendance**

Regular attendance is expected and required. If a student is unable to attend a class session, they are required to notify the lead instructor for the day via email at least 15 minutes before the start of the class session.

## Course Schedule

The following are the expected dates of lecture and lab content:

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<i>Date</i>	<i>Topic</i>
<b>Day 1: June 4</b>	
9:00 am - 10:00 am	<b>Introduction; Inference and Error in Surveys</b> Introduction to survey methodology Steps of the process of a survey Key concepts and principles of survey quality
10:10 am- 11:00 am	<b>Coverage error</b> Probability sampling Sampling frames
11:10 am- 12:00 pm	<b>Sampling</b> Simple random sampling Sample size calculation Systematic sampling
1:00 pm - 2:00 pm	<b>Class Exercises 1-2</b> TSE example SRS
2:10 pm- 3:00 pm	<b>Class Project Phase 1</b> Population definition Survey estimates and corresponding levels
3:10 pm- 4:00 pm	<b>Class Project Phase 2</b> Sample size determination Sampling frame and coverage error

### Readings:

Groves, R.M. et al. (2009). Chapters 1, 2, 3 and 4:

Chapter 1: An Introduction to Survey Methodology

Chapter 2: Inference and Error in Surveys

Chapter 3: Target Populations, Sampling Frames, and Coverage Error

Chapter 4: Sample Design and Sampling Error, Sections 4.1-4.3, 4.6

Kalton, G. (1983). *An Introduction to Survey Sampling*. Beverly Hills: Sage, Chapters 1-3, 8.

(Chapter 1: Introduction, Chapter 8: Sampling Frames, Chapter 2: Simple Random Sampling, Chapter 3: Systematic Sampling)

### Optional Readings:

Lyberg, L. E., and Stukel, D. M. (2017). The Roots and Evolution of the Total Survey Error Concept In P. P. Biemer, E. D. de Leeuw, S. Eckman, B. Edwards, F. Kreuter, L. E. Lyberg, C. Tucker, and B. T. West (Eds.), *Total survey error in practice* (pp. 1–23). Wiley Series in Survey Methodology.

Groves, R.M., & Lyberg, L.E. (2010). Total Survey Error Past, Present, and Future. *Public Opinion Quarterly*, 74(5), 849–879.

Kalton, G. (1983). *An Introduction to Survey Sampling*. Beverly Hills: Sage, Chapter 11: Sample Size

<i>Date</i>	<i>Topic</i>
<b>Day 2: June 5</b>	
9:00 am - 12:00 pm	<b>Sampling</b> Stratification Cluster sampling Stratified cluster sampling Probability proportionate to size sampling Construction of unit weights
10:10 am- 11:00 am	<b>Introduction to Mode of Data Collection</b> Face-to-face Telephone Self-administered
11:10 am- 12:00 pm	<b>Mixed-mode surveys</b> Mode choice Unified vs. best mode approach Inference
1:00 pm - 2:00 pm	<b>Class Exercises 3-4</b> Stratification Cluster sampling Construction of unit weights
2:10 pm- 3:00 pm	<b>Class Exercises 5-6</b> Stratified cluster sampling Probability proportionate to size sampling
3:10 pm- 4:00 pm	<b>Class Project Phase 3</b> Choice of method of data collection

**Readings:**

Groves, R.M. et al. (2009). Chapter 4, Sections 4.4, 4.5, 4.7,4.8, 4.9, 4.10.

**Optional Readings:**

Kalton, G. (1983). *An Introduction to Survey Sampling*. Beverly Hills: Sage, Chapter 4-6. (Chapter 4: Stratification, Chapter 5: Cluster and Multistage Sampling, Chapter 6: Probability Proportionate to Size Sampling )

Couper, M. P. (2011). The future of modes of data collection. *Public Opinion Quarterly*, 75(5), 889–908.

Couper, M. (2013). Is the sky falling? New technology, changing media, and the future of surveys. *Survey Research Methods*, 7(3), 145-156.

<i>Date</i>	<i>Topic</i>
<b>Day 3: June 6</b>	
9:00 am - 10:00 am	<b>Mode of Data Collection</b> Face-to-face Telephone Self-administered
10:10 am- 11:00 am	<b>Questions and Answers in Surveys</b> Overview of response behavior Comprehension Memory search
11:10 am- 12:00 pm	Estimation and judgment Delivery of response <b>Questionnaire Development</b> Research findings on question wording, structure, and context
1:00 pm - 2:00 pm	<b>Class Project Phase 3</b> Review of choice of method of data collection
2:10 pm- 4:00 pm	<b>Class Project Phase 4</b> Draft a questionnaire

**Readings:**

Groves, R.M. et al. (2009). Chapters 5 and 7.

Chapter 5: Methods of Data Collection

Chapter 7: Questions and Answers in Surveys

Antoun, C., Couper, M. P., & Conrad, F.G. Effects of Mobile versus PC Web on Survey Response Quality: A Crossover Experiment in a Probability Web Panel. *Public Opinion Quarterly* 2017; 81 (S1): 280-306.

**Optional Readings:**

Converse, J., & Presser, S. (1986), *Survey Questions: Handcrafting the Standardized Questionnaire*, Newbury Park: Sage.

Fowler, F., & Mangione, T. (1990), *Standardized Survey Interviewing*, Newbury Park: Sage, Chapters 1-5.

Tucker, C., & Lepkowski, J.M. (2008). Telephone survey methods: Adapting to change. In J.M. Lepkowski et al. (eds.), *Advances in Telephone Survey Methodology*. New York: Wiley, 3-26.

Tourangeau, R., Conrad, F. & Couper, M. (2013). Introduction in *The science of Web Surveys*, Oxford University Press: New York.

Tourangeau, R., Conrad, F. & Couper, M. (2013). Chapter 1: Sampling and coverage issues for web surveys in *The Science of Web Surveys*, Oxford University Press: New York.

Singer, E., & Couper, M.P. (2011). Ethical considerations in web surveys. In M. Das, P. Ester, & L. Kaczmirek (eds.), *Social Research and the Internet*. New York: Taylor and Francis, 133-162.

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<i>Date</i>	<i>Topic</i>
<b>Day 4: June 7</b>	
9:00 am - 10:00 am	<b>Questionnaire Pretesting</b> Focus groups Cognitive interviews Expert review Pretests Pilot tests
10:10 am - 11:00 am	<b>Mixed-mode surveys</b> Mode choice Unified vs. best mode approach Inference
11:10 am- 12:00 pm	<b>Interviewing</b> Recruiting and hiring of interviewers Interviewer training Evaluation of interviewing performance Management of data collection effort
1:00 pm - 2:00 pm	<b>Class Exercise 7</b> Convert a telephone questionnaire to self-administered mode (paper and web)
2:10 pm - 3:00 pm	<b>Class Project Phase 5</b> Cognitive interviews Expert review
3:10 pm- 4:00 pm	<b>Class Exercise 8</b> Review data from a pretest

**Readings:**

Groves, R.M. et al. (2009). Chapters 8 and 9.

Chapter 8: Evaluating Survey Questions

Chapter 9: Survey Interviewing

West, B. T., Conrad, F. G., Kreuter, F. and Mittereder, F. (2016), Can conversational interviewing improve survey response quality without increasing interviewer effects?. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*. doi: 10.1111/rssa.12255

**Optional Readings:**

Fowler, F., & Mangione, T. (1990), *Standardized Survey Interviewing*, Newbury Park: Sage, Chapters 1-5.

Presser, S., Couper, M.P., Lessler, J.T., Martin, E.A., Martin, J., Rothgeb, J., & Singer, E. (2004). Methods for testing and evaluating survey questions. *Public Opinion Quarterly*, 68, 109-130.

De Leeuw, E.D. (2005). To mix or not to mix data collection modes in surveys. *Journal of Official Statistics*, 21, 233-255.

West, B.T., Blom, A. G.. Explaining Interviewer Effects: A Research Synthesis. *Journal of Survey Statistics and Methodology* 2017; 5 (2): 175-211.

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<i>Date</i>	<i>Topic</i>
<b>Day 5: June 8</b>	
9:00 am- 11:00 am	<b>Nonresponse</b> Contacting sample units Gaining the cooperation of sample units Monitoring the progress of data collection
11:10 am- 12:00 pm	<b>Post-Survey Processing; Estimation</b> Editing data Coding Imputation Analysis of survey data
2:00 pm- 3:00 pm	<b>Class Exercises 9-10</b> Weighting Survey estimation
3:10 pm- 4:00 pm	<b>Project Design Debriefing</b>

**Readings:**

Groves, R.M. et al. (2009). Chapters 6 and 10.

Chapter 6: Nonresponse in Sample Surveys

Chapter 10: Postcollection Processing of Survey Data

Valliant R. (2004), *The Effect of Multiple Weighting Steps on Variance Estimation*, Journal of Official Statistics, Vol. 20, No. 1, 1-18

West B.T., Sakshaug J.W., and Aurelien GAS. (2016), *How Big of a Problem is Analytic Error in Secondary Analyses of Survey Data?*, PLoS ONE 11(6):e0158120