

Applied Survey Sampling (PA 576)
Course Syllabus
Fall 2011

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Required Texts:

1. Graham Kalton (1983) *Introduction to Survey Sampling*. Newbury Park, CA: Sage.
2. Sharon Lohr, SL (2010) *Sampling: Design and Analysis* (2nd edition). Pacific Grove, CA: Duxbury Press.
 - I recognize that this is an expensive book and it will be acceptable if you are able to find a less expensive, used copy of the first version, which was published in 1999. Also note that this book will additionally be used in the PA588 Data Reduction and Survey Analysis course that will be offered during the second half of this semester.
3. Other reading assignments, including both journal articles and materials, will be posted on the course Blackboard site.

Recommended (but not required) Text:

1. Alan Acock (2010) *A Gentle Introduction to Stata* (3rd edition). College Station, TX: Stata Press

Recommended (but not required) Software:

The computer software employed in some class examples is Stata version 12. The Stata software package is available on computers in the UIC School of Public Health and CUPPA computer labs and you should have free access to this software if you are on campus at all, but all assignments can be done by hand and will not require this software (note, however, that Stata software will be required for the PA588 course, which will be offered during the second half of the semester immediately after this course ends. Those of you who will be taking that class may want to get a head start in becoming familiar with this software). Stata can also be purchased at discounted student rates directly from Stata Corporation at www.stata.com/info/order/new/edu/gradplans/gp3-order.html. The specific package I recommend is Stata IC 12. A six month license is \$65. Also, you can get good, free tutorials regarding Stata use at: <http://www.ats.ucla.edu/stat/stata>

Course Overview and Objectives:

This course is an 8 week, Web-based class. The purpose of this course is to provide an overview of current methods and issues in survey sample design. Emphasis will be on practical application of sampling methods and procedures to applied research problems. We will also examine the sample designs employed in a variety of local and national surveys. Specific objectives include the following:

1. To review the basic designs for selecting samples for applied survey research.
2. To develop an understanding of and appreciation for the process of designing survey samples.
3. To develop problem-solving skills in designing survey sample plans.

Because this course is concerned with current issues in applied survey sampling, the schedule and assignments may be revised as new material becomes available.

Course Blackboard Web Site:

A course Blackboard site has been established that will serve as an important tool for this class. You can obtain access to most reading materials from this site. As new materials are added during the semester, announcements regarding their availability will be posted. Please visit this site as soon as possible to confirm that you are able to access it. Please notify the instructor immediately if you have difficulty accessing the materials posted on Blackboard for this course.

Also please note that I will be recording lectures to go with each week's set of PowerPoint slides,

so be sure to turn on the audio on your computer to hear these. I am still working out some bugs in the software (Helius) being used to do this so please let me know if you have any difficulties.

General Requirements and Grading:

1. It is essential that you do the assigned reading before you review any of the online lectures provided in the Blackboard site.
2. Assignments will be released on a weekly basis, usually on Sunday evenings. The assignments will be based on the lecture notes and reading assignments. All assignments must be typed with grammar and spelling checked. Students should retain copies of all materials submitted. The deadline for each assignment will be the following Sunday night (by midnight), and students should submit assignments to the Blackboard site. Late assignments will lose credit.
3. Final grades will be based on weekly class assignments, your contributions to our online discussion, and a final written exam.

Weekly assignments	60%
Class online discussion	10%
Final exam	30%

Final Examination: The final examination will be open book. For examination and assignments, it goes without saying that cheating or plagiarism will not be tolerated and that all relevant University policies apply. Policies are available at http://www.uic.edu/pharmacy/student_affairs/current_students/HonorCodeViolations.pdf

Class Schedule and Reading Assignments:

Week 1 (week of August 22)

- Topics: Simple Random & Systematic Sampling
- Readings:
 - Kalton, chapters 1-3
 - Lohr, chapters 1-2

Week 2 (August 29)

- Topics: Stratified Sampling
- Readings:
 - Kalton, chapter 4
 - Lohr, chapter 3

Week 3 (September 5)

- Topics: Cluster Sampling I

- Readings:
 - Kalton, chapter 5
 - Lohr, chapter 5

Week 4 (September 12)

- Topics: Cluster Sampling II
- Readings:
 - Kalton, chapter 6
 - Lohr, chapter 6-7

Week 5 (September 19)

- Topics: RDD Telephone Sampling & Area Probability Sampling
- Readings:
 - Gaziano et al. (2005) Comparative analysis of within-household respondent selection techniques. *Public Opinion Quarterly* 69: 124-157.
 - Harter et al. (2010) *Applied Sampling for Large-Scale Multistage Area Probability Designs*, in Handbook of Survey Research by Marsden & Wright (2nd Ed). (on Blackboard)
 - Kalsbeek & Agans (2008) *Sampling and Weighting in Household Telephone Surveys*, in Advances in Telephone Survey Methodology by Lepkowski et al. (on Blackboard)
 - Link et al. (2008) Comparison of address-based sampling (ABS) versus random-digit dialing (RDD) for general population surveys. *Public Opinion Quarterly* 72: 6-27.
 - Messer & Dillman (2010) Using address based sampling to survey the general public by mail vs. 'web plus mail'. Technical Report 10-13, Social & Economic Sciences Research Center, Washington State University.

Week 6 (September 26)

- Topics: Nonresponse Error and Response Rates
- Readings:
 - Kalton, chapter 9
 - Lohr, chapter 8
 - Dixon & Tucker (2010) *Survey Nonresponse*, in Handbook of Survey Research by Marsden & Wright (2nd Ed). (on Blackboard)
 - AAPOR's Standard Definitions (2011) (on Blackboard)

Week 7 (October 3)

- Topics: Sample Weighting
- Readings:
 - Kalton, chapter 10
 - Lohr, review pp. 37-38, 82-84, 285-288, 340-346

Week 8 (October 10)

- Topics: Sampling Rare Populations: Probability & Nonprobability Approaches

- Readings:
 - Lohr, chapter 14, section 14.1
 - Heckathorn (1997) “Respondent-Driven Sampling: A New Approach to the Study of Hidden Populations” *Social Problems*. Vol. 44 (2): 174-199. (on Blackboard)
 - Heckathorn (2002) “Respondent-Driven Sampling II: Deriving Valid Population Estimates from Chain-Referral Samples of Hidden Population” *Social Problems*. Vol.49 (1):11-34 (on Blackboard)

Final Exam (October 16)

Bibliography of Additional Sampling Texts:

Cochran (1977) *Sampling Techniques*, (3rd edition). NY: Wiley

Dorofeev & Grant (2006) *Statistics for Real-Life Sample Surveys*. Cambridge

Henry (1990) *Practical Sampling*. Newbury Park, CA: Sage.

Kish (1965) *Survey Sampling*. NY: Wiley

Levy and Lemeshow (2009) *Sampling of Populations: Methods and Applications, Fourth Edition*. New York: John Wiley & Sons.

Scheaffer et al. (2012) *Elementary Survey Sampling* (7th edition). Belmont, CA: Wadsworth Publishing Company

Sudman (1976) *Applied Sampling*. NY: Academic Press

Thompson (2002) *Sampling*, (2nd edition). NY: Wiley

Williams (1978) *A Sampler on Sampling*. NY: Wiley