

Special Topics – Applied Survey Sampling
PA 587 Syllabus
Fall 2009

Class Meeting: Wednesdays, 3-5:50pm (Oct 21-Dec 9)
Room 2234 ADH

Instructors: Timothy P. Johnson, Ph.D.
Survey Research Laboratory
Room 629
CUPPA Hall (East Campus)
412 S. Peoria Street
Office: 312-996-5310
Residence: 630-469-8649 (between 7-9pm please)
E-mail: timj@uic.edu

Office Hours: By appointment.

Required Texts:

1. Gary Henry (1990) *Practical Sampling*. Newbury Park, CA: Sage.
2. Graham Kalton (1983) *Introduction to Survey Sampling*. Newbury Park, CA: Sage.

Other reading assignments, including both journal articles and Survey Research Laboratory sampling reports, will be posted on the course Blackboard site.

Blackboard Course 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.

Course Overview and Objectives:

The purpose of this course is to provide an overview of current methods and issues in survey sample design. Emphasis will be placed 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 the course is concerned with current issues in applied survey sampling, the schedule and assignments may be revised as new material becomes available.

General Requirements and Grading:

1. Class attendance is *strongly* encouraged. Active involvement in class is also expected.
2. It is essential that you do the assigned readings before they are discussed in class.
3. All assignments must be typed with grammar and spelling checked. Students should retain copies of all materials submitted.
4. Final grades will be based on three class assignments, class participation and a final exam:

Assignment #1	10%
Assignment #2	15%
Assignment #3	20%
Class participation	5%
Final exam	50%

Assignment #1 (due November 4)

Using resources available via the web, investigate and compare the sample designs used in the surveys conducted (or commissioned) by any three media groups. In 2-3 pages, contrast the sample designs and related methodological practices of each. This information is often difficult to discern, so you will have to do some digging.

Assignment #2 (due November 11)

Identify a national survey and prepare a 3-4 page summary of its sample design. Several potential surveys to select from are listed below, although you can select another national survey if you prefer. For the surveys listed below, there is a considerable amount of information

available on the web and in the published literature. The web should also be able to provide you with contacts within the organizations responsible for each survey who may be able to give you additional insights not otherwise available. Your summary should include, at a minimum, the following information:

1. Survey goals & objectives
2. Unit(s) of analysis
3. Survey history (i.e., when was it first conducted, how many times has it been conducted, who sponsors the survey)
4. A description of the sample design and how it relates to survey goals & objectives
5. How have study results been used? (depending on the study, this may require some detective work)
6. Your assessment of the study's strengths and weaknesses

Some national surveys to select from include the following:

Behavioral Risk Factor Surveillance Surveys	National Health Interview Survey
Drug Abuse Warning Network	National Home and Hospice Care Survey
General Social Survey	National Survey of Drug Use and Health
Longitudinal Survey on Aging	National Immunization Survey
Monitoring the Future Survey	National Nursing Home Survey
National Ambulatory Medical Care Survey	National Survey of Ambulatory Surgery
National Election Survey	National Survey of Family Growth
National Employer Health Insurance Survey	National Literacy Survey
National Health and Nutrition Examination Survey	Youth Risk Behavior Surveillance Survey

Assignment #3 (due December 2)

Using area probability methods, select a random sample of occupied housing units on the city block in which you live. Prepare a report of the methodology you implemented and include as appendices the various materials you used to construct your sample frame and select your sample.

Final Exam (December 9)

There will be a final exam in this class. It goes without saying that cheating cannot be tolerated and that all relevant University policies apply. The examination will be closed book.

Class Schedule and Reading Assignments:

Week 1 (October 21) – Simple Random & Systematic Sampling & Sample Size Requirements

- Kalton, chapters 1-3 & 11
- Henry, chapters 1-3 & 7

Week 2 (October 28) – Stratified Random Sampling

- Kalton, chapters 4
- Henry, chapter 6

Week 3 (November 4) – Cluster Sampling

- Kalton, chapters 5-6
- Gaziano (2005) Comparative analysis of within-household respondent selection techniques. *Public Opinion Quarterly* 69: 124-157

Week 4 (November 11) – Sample Frames

- Kalton, chapter 8
- Henry, chapter 5

Week 5 (November 18) – Sample Weights

- Kalton, chapter 10
- Henry, chapter 8

Week 6 (November 25) – Analysis of Complex Sample Surveys

- Brogan (1998) Pitfalls of using standard statistical software packages for sample survey data. *Encyclopedia of Biostatistics*
- Johnson & Elliott (1998) Sampling design effects: Do they affect the analyses of data from the National Survey of Families and Households? *Journal of Marriage and the Family* 60: 993-1001.
- Korn and Graubard (1991) Epidemiologic studies utilizing surveys: Accounting for the sampling design. *American Journal of Public Health* 81: 1166-1173.

Week 7 (December 2) – Nonprobability Sampling

- Kalton, chapter 13
- Heckathorn (1997) Respondent-driven sampling: A new approach to the study of hidden populations. *Social Problems* 44(2): 174-199.

Week 8 (December 9) – Final Examination (in-class)

Other Sampling Resources:

Cochran (1977) Sampling Techniques, Third Edition. NY: Wiley.

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

Kish (1965) Survey Sampling. NY: Wiley.

Levy and Lemeshow (2008) Sampling of Populations: Methods and Applications, Fourth Edition. NY: Wiley.

Lohr (1999) Sampling Design and Analysis. Duxbury.

Schaeffer, Mendenhall & Ott (1996) Elementary Survey Sampling, Fifth Edition. Duxbury.

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

Thompson (2002) Sampling, Second Edition. NY: Wiley.

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