

Introduction to Survey Sampling

Summer Institute in Survey Research Techniques, 2009

Instructor: Roger Tourangeau

Time: July 6-10, 9:00 am – 12:00 noon
Location: 368 ISR
1208 LeFrak

Roger Tourangeau

Room 4034 ISR

Telephone: 734 647-5380

Email: rtourang@survey.umd.edu

Course Description

Introduction to Survey Sampling will cover the main techniques used in sampling practice: simple random sampling, cluster sampling, stratification, systematic selection, and probability proportional to size sampling. The course will also cover sampling frames, cost models, sampling error estimation techniques, and compensating for nonresponse. It is a survey research course rather than a statistics course. It focuses on design of survey samples and estimation of descriptive statistics rather than the analysis of collected data. It also focuses on sampling human populations.

We believe that you cannot adequately understand sampling methods unless you have applied the methods yourself. We have prepared a series of exercises that involve selecting samples and computing estimates from them manually. Participants should bring a hand-held calculator that has basic arithmetic operators, at least one memory location, and a square root function. Other functions may be useful to you, but they are not necessary to complete the exercises. Space will be available in the course pack to write solutions to exercises.

The course will meet daily for three hours. Class time will include lecture and discussion of homework. Students will be provided with a copy of nearly all materials that are presented on transparencies. Questions are welcomed during lecture sessions.

Homework and Examinations

There will be no examinations, but homework will play an important role as a learning device. The homework assignments will be extensions of the classroom exercises and will be brief. They will be due at the beginning of the following class session: assignments 1, 2, and 3 will be graded on a simple three category scale: check +, check, and check -; assignment 4 will be covered only in class. Study groups are useful for preparing answers to problems and are

encouraged. However, group answers are not acceptable; each student must turn in her/his own work.

Textbook

The principal text for the course will be *Introduction to Survey Sampling* by Graham Kalton (Sage Publications, Beverly Hills, 1983). Students will also be provided copies of a chapter from a textbook on survey research methodology as part of the course pack.

Schedule

The syllabus presents *approximate* dates of lecture and homework assignments:

Date	Topic	Homework
July 6	Overview. Simple random and systematic sampling. Historical perspective.	--
7	Element sampling. Cluster sampling. Two-stage sampling.	Assignment 1
8	Stratified sampling. Probability proportionate to size sampling.	Assignment 2
9	Probability proportionate to estimated size sampling. Frames. Weighting.	Assignment 3
10	Weighting (continued). Variance estimation. Textbooks on survey sampling.	Assignment 4
