

**Other Useful References:**


Leslie Kish. Survey Sampling. Excellent applied chapters on area sampling, and sampling of a variety of populations.


Gives a detailed description of applying the approaches to use some simple replicate designs.


**Term Project: To design and carry out a sampling project.**

Your sampling project will involve multiple tasks.

Statement of objectives

Definition of Target Population

The Frame

Elements, sampling units
Sample Design (e.g. multi-stage, with stratification or clustering at different stages)

Type of estimator

Method of Measurement

Measurement instrument

Pilot study

Organization of fieldwork

Organization of data management

Data analysis

Conclusions

Written Report

Term projects will be due for presentation on April 23 and April 30. I will set up individual appointments with students to discuss their projects. Presentations will be by powerpoint. The final written paper giving details will be handed in on April 30th.

The project will NOT involve sampling of human populations. However, it is an important part of your training to know the legal and ethical responsibilities for sampling human subjects.

Every student is required to take the online Rutgers Human Subjects Certification Program and pass the online certification exam. Instructions, training program online, and Online exam can be found at:

http://orsp.rutgers.edu/index.php?q=content/human-subjects-certification-program

You have until March 26th to complete the certification course, pass the exam and receive the certification letter, which you will submit (a copy of) to me in class.
Week TOPIC

Jan 22 introduction, questionnaire design

HW due Jan 29: Read (L) 1-19, (SMO) 7-39;
Problems (L) p. 19/2, 4, 5, 6. (SMO) p. 39/1, 2, 3, 5, 7

Design a one-page questionnaire to get student’s opinion on some topic in the news, or of particular interest to you. Describe some target population you might be interested in, and a frame you might use. How might your sampled population differ from your target population?

Jan 29 simple probability samples

HW due Feb 5: Read: (L) 25-51; (SMO) 48-67;
Problems (L) p. 61/1, 2, 6, 12; (SMO) p. 74/21, 22, 26

Feb 5 Simple Random Sampling. Randomization & design based approaches

HW due Feb 12: Read (SMO) 76-102 ; (L) 51-61
Problems: (L) p. 65/ 19, 20, 26, 27; (SMO) p. 103/1,2,3,14,15,17,30

Feb 12 stratified random sampling

HW due Feb 19: Read (SMO) 117-150
Problems: (SMO) p. 157/1,2, 5,13,14,15, 27

Feb 19 Ratio Estimation

HW due Feb 26: Read (L) 117-133; 144-146; (SMO) 180-204
Problems (L) p. 155/ 3 ; (SMO) p. 218/1,2,4,5,9,25
Feb 26 Regression Estimators, Difference Estimators (SMO) 204-217; (L) 138-142

Post-stratification, Double Sampling for Stratification (SMO) 150-157; (L) 142-143

Domains of Study; (L) 133-138; (SMO) 354-358;

HW due March 5.

Problems (L) p. 155/1,3, 15 (SMO) p. 165/29; p. 222/16; p. 380/3,4,5,6,7,8

March 5 cluster sampling

HW due March 26: Read: (L) 165-182, (SMO) 265-291

Problems: (L) p. 207/ 1, 11; (SMO) p. 297/ 18,20,21, 22, 23

March 12  MIDTERM

Material from beginning of course thru and including material of Feb 26 (Regression Estimators, Difference Estimators, Post-stratification, Double Sampling for Stratification Domains of Study

March 15– 23 Spring Break

March 26  Human Certification letter due. Proposal for term project due.

two-stage cluster sampling

HW due April 2: Read: (SMO) 303-321; (L) 182-196

Problems: (SMO) p. 322/4,5,10, 14,15,16; (L) p. 209/6,7,14,25

April 2 sampling with unequal probabilities

HW due April 9; Read: (L) 219-228, 231-254; (SMO) 52-56, 362-366

Problems: (L) p. 267/1,2,3,4,5; (SMO) p. 72/16
April 9  Systematic Random Sampling, interpenetrating samples

HW due April 16: Read (L) 196-199; (SMO) 231-248. p. 352-354

Problems: (SMO) p. 258/3, 4, 5, 8

April 16th  There will be no class. Term projects will be due for presentation on April 23.

April 23 Estimation of Population Size , Randomized Response

HW due April 30: Read (SMO) 327-344 ; p. 358-362 , (L) 495-504

Problems (SMO) p. 345/5,6,16,17,19,20; p. 348/3, p. 380/2, (L) p. 505/2,8

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April 30 (last class) Term Project Paper Due

May (date to be set)  FINAL EXAM (cumulative)  Wed May 14  6 to 9 pm
Room 502 Hill North

Exams are open book, Open Notes, Computer allowed.

Grades: HW 15% , Term Paper & presentation 35%, Midterm 25%, Final 25%