Statistics 6510  
Survey Sampling Methods  
3 semester hour course

Cross-listed with PH-Bio 7225

Prerequisites: Stat 5301 or Stat 529 or PUBH-BIO 6212 or PUBH-BIO 703 or equivalent. Students should be knowledgeable about and comfortable with discrete data distributions, expected values, variances, confidence intervals, and regression.

Exclusions: No credit for students with Stat 651 or PUBH-BIO 651 or Stat 6510

Class Distribution: Two 80 minute or three 55 minute lectures per week

Tentative Text: Lohr, Sampling: Design and Analysis (Second Edition)

Course Description: Sampling from finite populations, simple random, stratified, systematic and cluster sampling design, ratio and regression estimates, non-sampling errors, models.

Course Goals: At the end of this course, students will understand how sample surveys are conducted, why common survey designs are used and when each is most appropriate, be able to analyze the results of surveys that use common designs, and be able to derive from first principles the standard results and their generalizations.

Tentative Topic List:

1. Introduction to sampling
2. Nonsampling error
3. Simple Random Sampling
4. Systematic sampling
5. Ratio and regression estimation
6. Stratified sampling
7. Cluster sampling
8. Complex surveys and variance estimation
9. Nonresponse
10. Model-based estimation

Conversion Note: Conversion from a 4 quarter hour course Stat 651. Extra hours will allow more complete coverage of nonresponse and model-based estimation. (Current instructors either choose one topic, or cover both at a very cursory level.) Prerequisites adjusted to fit better with the more modern content of the course. The previous prerequisite was STAT 521.