



STAT 410

Statistical Analysis of Sample Surveys

Spring 2009
Day Course

Students requiring accommodations as a result

Instructor:

Calendar Description:

An introduction to the major sample survey designs and their mathematical justification. Associated statistical analyses. **Quantitative.**

Outline:

This course covers the major ideas and methods of modern survey sampling.

1. Ideas of sampling, overview of application areas. Use of the free statistical software package R to select random samples and explore sampling ideas through simulation and graphics.
2. Simple Random Sampling: Selecting random samples with and without replacement, concept of population and sampling frame, estimating means, totals, and proportions, the finite population correction factor, confidence intervals, use of the normal approximation, choosing the sample size.
3. Unequal probability sampling. How to select a sample of units with unequal selection or inclusion probabilities, unbiased estimation with unequal probability designs.