Statistics 475  
Sample Survey Methods  
Syllabus  
Fall 2018

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Class Website: Canvas website

Cengage Learning.

Also Strongly Recommended: Complex Surveys: A Guide to Analysis Using R, Thomas Lumley,  
2010, Wiley.

Course Description: This course will focus on statistical methods for the design and analysis of  
sample surveys. We plan to cover Chapter 1-5 and parts of Chapters 6-9, and 11 of the  
textbook, and other related topics as time permits. The core topics are simple random  
sampling, stratified sampling, cluster sampling, ratio estimation, sampling with unequal  
probabilities, sampling weights, analyzing complex surveys, dealing with nonresponse, and  
some advice for questionnaire design. Other topics include online survey panels, small area  
estimation, and graphing survey data.

Course Requirements: There will be six homework assignments, a midterm exam, and a final  
project.

Grading: Homework (40%), Midterm (30%), Final Project (30%).

Computing software: We will make use of the statistical computing software R in class and on  
homework assignments. R can be downloaded from http://www.r-project.org/ . It would be  
beneficial if you already have some experience with R, but not absolutely necessary. I will give  
you instructions for all the R commands you will need for the course, but if you have never used  
R before expect a learning curve to get up to speed.

Course Prerequisites: Stat 102, Stat 112 or Stat 431. Experience with R is helpful but not  
required.