

**Statistics 475**  
**Sample Survey Methods**  
**Syllabus**  
**Spring 2019**

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**Office Hours:** by appointment.

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**TA Office hours:** 4:30-6:30 JMHH F86

**Class Website:** Canvas website

**Text:** *Sampling: Design and Analysis, Second Edition*, Sharon H. Lohr, 2010, Brooks/Cole 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.