

## 36-303: Sampling, Survey, and Society

### *Course Information:*

**Instructor:** Rebecca Nugent  
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**Location/Times:** Baker Hall 237B, Tues/Thurs 1:30pm - 2:50pm

**Website:** <http://www.cmu.edu/blackboard>  
<http://www.stat.cmu.edu/~rnugent/teaching/CMU303/>

**Textbook:** *Sampling: Design and Analysis*. Lohr, Sharon L. Duxbury Press, 1999.  
additional readings passed out in class

**Prerequisites:** any of 36-202, 36-208, 36-226, 36-309, 36-625, 70-208, 73-260, 73-261, or 88-250. You should also be familiar with the material in Appendix B although we will review it in the first two weeks.

### *Course Objectives:*

**Description:** (*from course catalog*) This course will revolve around the role of sampling and sample surveys in the context of U.S. society and its institutions. We will examine the evolution of survey taking in the United States in the context of its economic, social, and political uses, eventually leading to discussions about the accuracy and relevance of survey responses, especially in light of various kinds of sampling errors. Students will be required to design, implement, and analyze a survey sample.

*Addendum:* Students will also write a scientific report summarizing their survey and its results.

**End-of-course goals:** After passing this course, you should be able to:

- Express the vast influence surveys have on American life and express several specific ways that surveys impact our daily lives
- Converse with other statisticians and researchers about survey design and analysis

- Write survey questionnaires that promote internal validity
- Design surveys so that the external validity is clearly identifiable and is acceptable to the researcher
- Determine the most efficient and appropriate method for conducting a particular survey
- Analyze survey data and interpret the results; demonstrate an understanding of the statistical properties associated with sampling from a finite population; explain the difference between and appropriate use of design- and model-based methodologies; use model-based methods to analyze survey data
- Conduct a complete survey from design to data collection to analysis and interpretation to summary report
- Compose a scientific report that conveys the design and results of a survey that would be understandable to someone who has not taken this course
- Critique a survey (including the questionnaire, sampling design and analysis), identify its strengths and weaknesses, and offer suggestions to remedy any weaknesses
- Work productively as part of a group

### ***Course Work:***

There are two components: individual work and group work. Both are equally important. You are expected to attend and participate in all classes.

### **Individual Work:**

There will be 7 or 8 weekly homework assignments due Thursdays by 3pm. Assignments may be brought to class or e-mailed to the instructor. Late homeworks will not be accepted except in the case of extenuating circumstances (to be determined by the instructor).

**Please come talk to me if there are difficulties; problems must be discussed IN ADVANCE.**

Your lowest homework grade will be dropped. Working together on homework is fine; your individual write-ups should be your own. Please acknowledge any help received on your assignment. Your individual homework will be worth 10%.

There will be two midterm exams: March 1 and April 12. Each is worth 10%.

If you have time/day conflicts, come talk to me immediately.

Conflicts must be solved in advance.

### **Group Work:**

Each group will conduct a semester-long survey project during which your group will design, conduct, and analyze the data from your own survey. All group members are expected to participate fully. There also will be group work assigned each week; many of the group

assignments are simply steps to fulfill for the survey project. The schedule of tasks to be completed can be found on the calendar. Each group is required to meet once a week. Also often your group will meet during class to work on aspects of the survey project. (Class attendance is very important.) Group work (one per team) is due Thursdays by 3pm. Your group work will be worth 10%.

Each group will also produce a Midterm Report (early draft of your final report) (5%), a Project Presentation (20%), and a Final Report (25%).

### ***Citizenship:***

Much of the work done for this course relies on working with others. You are expected to participate fully in both class and in group assignments. You will be graded on this by both the instructor and your group members. Every three weeks or so, you will fill out peer citizenship assessment forms for your group. These evaluations are anonymous in the sense that only I will see the results; your group members will not. I will, however, provide feedback if necessary. The purpose of the assessment is only to ensure that everyone is participating fully and working together, NOT to assess someone's strengths and weaknesses with the class material. Your citizenship grade will be worth 10%.

Note: if you do not receive a passing citizenship grade, you will not pass the course.

### ***Plagiarism:***

Plagiarism is completely unacceptable. For the purposes of this class, plagiarism is using other people's words or ideas without crediting those people. Group work can use the words and ideas generated by that group without giving credit other than the group members' names on the assignment. If you work with someone on an assignment, simply acknowledge that you did so on the first page. If you get ideas or words from a website, journal article, etc that you found helpful, cite the source on your assignment/group work. You will not be penalized for working together (except for exams) if appropriately cited. Each case of plagiarism will be considered individually; consequences will depend on the seriousness of the case.

### ***Grading Scheme:***

Individual Homework	10%
Midterm Exams	20%
Group Homework	10%
Citizenship	10%
Survey Midterm Report	5%
Survey Project Presentation	20%
Survey Project Final Report	25%

**Deadlines are fixed. Come talk to me about problems or time conflicts IN ADVANCE.**