

STA 6126 Statistical Methods in Social Research I Fall 2016

Section 2058 MWF 5th period, 11:45am-12:35pm, FLG 245

Instructor Deborah Burr, 116C Griffin-Floyd Hall (FLO); Office Hours: MWF 12:45-1:45pm, or by appointment; Email burr@stat.ufl.edu (put “6126” in the subject line); Phone: 273-2973 (Do not leave a message.) I do not use Canvas email.

Teaching Assistant Thuong Nguyen, FLO 218, Office Hrs MW 10:30am-11:30am

Required Materials

Textbook Moore, McCabe, and Craig, *Introduction to the Practice of Statistics* 8th Ed., W. H. Freeman.

Course Notes On Canvas. Unit 1 is available now. The course notes are an outline of what I will go over in class and are *not* a substitute for class attendance.

Scientific Calculator You need one which will compute the mean and standard deviation automatically. You will use it for tests; a graphing calculator is allowed.

Statistical Software We will use the free statistical computing language R; download it in the first week of the semester from <http://www.r-project.org>. Also download Rstudio from <http://www.rstudio.com> (Desktop free license).

Course Description This course stresses the “big picture” of statistics: It relates standard data summaries such as the mean and standard deviation, to inferential methods for drawing conclusions from the data, via probability. All topics are explained conceptually and carefully but without mathematical proof. The course provides a solid foundation for sensible application of the most common statistical methods to research in a wide range of fields. Many common statistical methods are included. Students will be introduced to the R programming language, at the “exposure level” (you will run code, recognize what it’s doing, and interpret the output). Topics include descriptive statistics, probability basics, the sampling distribution of the mean (Central Limit Theorem), estimation, hypothesis testing, and linear regression.

Main Course Objectives (short list)

1. Be able to produce and interpret appropriate graphs and descriptive statistics for one variable (either categorical or quantitative).
2. Be able to carry out correlation and regression analyses, for two quantitative variables, and to correctly interpret such analyses.
3. Know and apply the basic probability rules, the concepts of expected value and variance of discrete distributions, and the binomial and normal distributions.
4. Know the normal distribution and Central Limit Theorem, which form the basis for much of statistical inference.
5. Know the meaning of confidence intervals and hypothesis tests.
6. Carry out and interpret one-sample and two-sample analyses for means and proportions.

7. Be familiar with examples of statistical methods that occur in the daily news and in social science research.

Grading Your final course grade will depend on your course score based on the following five components with their respective weights:

Homework/Quizzes:	25%
Exam 1:	Monday September 26 (8:20pm, location TB A) 25%
Exam 2:	Friday October 28 (8:20pm, location TBA) 25%
Exam 3:	Monday December 5 (8:20pm, location TBA) 25%

The assignment of letter grades will be determined as follows (cutoffs will be no stricter than indicated, and may be relaxed): A 93-100; A⁻ 90-92; B⁺ 87-89; B 80-86; B⁻ 77-79; C⁺ 74-76; C 67-73; D 50-66; E < 50

Homework There will be ten homeworks. The homeworks will be posted at least one week before the due date. You may get help with homework problems, but the final write-up of your homeworks must be your own. See [HomeworkInstructions.pdf](#) for more detailed instructions. Some problems will require use of the R language; an R tutorial will be given in class, and R code will be provided for the assigned problems.

Tests There will be three exams. Each test will consist of short-answer and written questions. Test problems will be similar to problems solved in lecture, and to homework problems.

Course Policies

Communication Use email only for administrative matters. Email me only at the UF email address burr@stat.uf1.edu, and put the course number in the subject line; do not use Canvas email. See me or a TA in person for content questions. It's ideal to ask questions right after class.

Homework You are allowed to get help with homework problems, but your final write-up must be your own. Homework must be turned in at the beginning of the lecture on the due date. Homework submitted on Canvas will be accepted up until 11:59pm on the due date, with a ten-point penalty for homeworks submitted after class begins. Your homework percentage score will be taken out of 250 points. The total possible points will be around 275 points, giving you approximately a 25-point "cushion" possible on your homework score. Percentage score on homework is capped at 100%.

Tests The tests are closed-book, closed-notes. You may bring one 8.5 x 11 sheet of notes to each test. Bring a picture ID, your calculator, pencils and erasers. Makeup exams must be approved before the time of the exam and will be given only in case of medical or family emergencies (which must be appropriately documented). All work must be entirely your own.

The exams are unit tests, not cumulative. There is no final exam. The final exam period for the course is Wed 14 Dec 3-5pm. This will be used for makeup tests.

Disabilities If you need to request accommodation due to a disability, please register with the Dean of Students office. The Dean of Students will provide documentation, which you then bring to me.