

STA 3024 Introduction to Statistics 2 Spring 2015

Section 7454 MWF 3rd period, 9:35-10:25am, Pugh 170

Instructor Deborah Burr, 116C Griffin-Floyd Hall (FLO); Office Hours: MWF 8th period (3:00-3:50), or by appointment; Email: burrøstat.uf1.edu (put “3024” in the subject line); Phone: 273-2973 (Do not leave a message.)

Teaching Assistants Runmin Shi, srm0927@uf1.edu; Jin Tao, 209 FLO, tao@ufi.edu

Required Materials

Textbook Agresti and Franklin, *Statistics, The Art and Science of Learning from Data* 3rd Ed., Prentice Hall.

Course Notes At Target Copy, 94 pages, \$10.42 plus tax. The course notes are an outline of what I will go over in class and are *not* a substitute for class attendance.

Calculator You need a scientific calculator, one which will compute at least the mean and standard deviation automatically.

Statistical Software We will use the free statistical computing language R; download it from <http://www.r-project.org>.

Course Web Page <http://www.stat.ufi.edu/~burr/Courses/3024>

Prerequisite STA 2023 or equivalent.

Course Description After a review of essential statistics concepts, this course begins with the topic of inference for simple linear regression. The main course topics are multiple linear regression and the analysis of variance. A short introduction to analysis of data in contingency tables will also be given. Assumptions of procedures are stressed, and alternative nonparametric procedures are discussed. Some mathematics is required (at the level of high-school algebra); examples are used to explain all methods and concepts.

Main Course Objectives (short list)

- 1 Acquire more experience and understanding of concepts of descriptive and inferential statistics, such as the histogram, normal distribution, z -scores, basic probability rules, sampling distribution of the mean, confidence intervals and hypothesis tests. (This will be a review.)
- 2 Be able to carry out and interpret simple linear regression analysis.
- 3 Be able to carry out and interpret several types of multiple regression analysis, including model evaluation and discussion of pitfalls.
- 4 Be able to carry out and interpret one-way analysis of variance including appropriate methods of multiple comparisons.
- 5 Be able to carry out and interpret two-way factorial analysis of variance with and without interaction; know what interaction is.

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

Homework/Quizzes:		20%
Midterm 1:	Wednesday February 4 (in class)	20%
Midterm 2:	Wednesday March 11 (in class)	20%
Midterm 3:	Wednesday April 8 (in class)	20%
Final Exam:	Wednesday April 22 8:20-10:10pm (Location TBD) OR Thursday April 30 (3:00-5:00pm, Pugh 170)	20%

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 approximately nine homeworks to hand in, consisting mainly of some of the textbook exercises. The homeworks will be posted on the course web site at least one week before the due date. 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 one-hour midterms and a two-hour final exam. The first midterm and the final exam will be entirely multiple-choice with scantron. The second and third midterms will contain one written question each, in addition to multiple-choice items. Some test problems will contain computer (R) output, which the student will be asked to interpret. The midterms will be "unit" tests; the final exam will be cumulative.

Course Policies

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. Late homework will not be accepted.

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.

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.

Other Information This is a three-credit course which counts towards the General Education requirement and towards the Gordon Rule requirement in mathematics, if you earn a grade of C or better.