

STA 3032 Engineering Statistics Fall 2013

Section 4437 MWF 6th period LIT 0109

Instructor Deborah Burr, 116C Griffin-Floyd Hall (FLO); Office Hours: M 8th period (3:00–3:50), WF 3rd period (9:35–10:25), or by appointment; Email: burr@stat.ufl.edu; Phone: 273-2973.

Teaching Assistants (One more T.A. will be announced later.)

Michael Walker, 116D FLO; Office Hrs: TTh 10:30-11:30am; walker11@stat.ufl.edu

Wei Xia, 218 FLO; Office Hrs: TTh 9:00-10:00am; jjtwwdei@stat.ufl.edu

Required Materials

Textbook William Navidi, *Statistics for Engineers and Scientists*, 3rd Ed., McGraw-Hill.

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 in the first week of the semester from <http://www.r-project.org>.

Course Web Page <http://www.stat.ufl.edu/~burr/Courses/3032>

Prerequisite MAC 2311 Analytic Geometry and Calculus I.

Course Description This course gives an introduction to concepts of probability and statistics, with a slant towards those ideas that have proved most useful in engineering applications. Topics include probability basics, discrete and continuous random variables, the sampling distribution of the mean (Central Limit Theorem), estimation, hypothesis testing, and linear regression. The application of statistics to control charts will be discussed in detail.

Main Course Objectives (short list)

- 1 Know the normal distribution and Central Limit Theorem, which form the basis for much of statistical inference.
- 2 Understand confidence intervals and hypothesis tests.
- 3 Be familiar with examples of statistical methods that occur in the daily news and in engineering, especially quality control.

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

Homework:		10%
Test 1:	Wednesday September 25 (6:15-7:45pm, room TBA)	30%
Test 2:	Wednesday October 23 (6:15-8:15pm, room TBA)	30%
Test 3:	Wednesday December 4 (6:15-8:15pm, room TBA)	30%

The assignment of letter grades will be determined as follows:

Grade	Score
A	93 – 100
A-	90 – 92
B+	87 – 89
B	83 – 86
B-	80 – 82
C+	77 – 79
C	70 – 76
D	60 – 69
E	< 60

Homework There will be five homeworks, consisting mainly of reading and exercises from the text by Navidi. Some of the exercises (those marked to “hand in”), will be collected and graded; the due dates for these hand-in assignments are given in the schedule. You may get help with homework problems, but your final write-up must be your own. If a solution to the homework exercise is in the back of the book, explain the steps in your own words.

Tests Three unit tests will be given. Each test will have a multiple-choice part, and a written part in which you will solve problems similar to problems solved in lecture, and to homework problems.

Schedule of topics, homeworks, and tests

Date	Assignment	Reading
6 Sep	HW1	Ch. 1, 4.5
18 Sep	HW2	2.1-2.5, 3.1, 3.2
25 Sep	TEST 1 (6:15pm)	Above plus 4.1, 4.2
9 Oct	HW3	4.11, 10.1, 10.2, 10.3
23 Oct	TEST 2 (6:15pm)	4.11, 10.1-10.3, 5.1, 5.2, 5.3
30 Oct	HW4	Ch. 5, 6.1, 6.2, 6.3
20 Nov	HW5	Ch. 6, 7.1, 7.2
4 Dec	TEST 3 (6:15pm)	Chs. 5, 6, 7

Note: The dates in this schedule are firm. The topics may change somewhat.

Course Policies

Homework 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 8.5×11 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.