STATISTICS 652-601

Fall semester, 2008

Instructor: Jeff Hart
Office: 459E Blocker Building
Phone #’s: My office 845-1467
Stat. dept. 845-3141
E-Mail: hart@stat.tamu.edu
Office hours: 3-4 MWF, or by appointment
Text: *An Introduction to Statistical Methods and Data Analysis*, fifth edition, R. Lyman Ott and Michael Longnecker

This book is available to you online for free.

Course website: http://stat.tamu.edu/~hart/652/652.html

Grading Policy

**Exams:** Three exams will be given in class: two midterms and a final, each of which I will grade. Each midterm will count 25% of your grade, and the final will count 30%. You’ll be allowed to use formula sheets on each exam. Tentative times for the two midterms are the week of September 29 and the week of November 3.

**Homework:** About 10 homework assignments will be made over the course of the semester. The homework will be turned in for credit, and will comprise 20% of your grade. Your lowest homework grade will be dropped, but late homework will not be accepted without a valid university excuse. The assignments will require use of the computer package SPSS. Homework will be graded by a teaching assistant.

**Determining your course grade:** Your course grade is determined by the weighted average of exams and homework, with the weights as stated above. Grades will be assigned as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Average</th>
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<tbody>
<tr>
<td>A</td>
<td>average ≥ 90</td>
</tr>
<tr>
<td>B</td>
<td>80 ≤ average &lt; 90</td>
</tr>
<tr>
<td>C</td>
<td>70 ≤ average &lt; 80</td>
</tr>
<tr>
<td>D</td>
<td>60 ≤ average &lt; 70</td>
</tr>
<tr>
<td>F</td>
<td>average &lt; 60</td>
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Note: I reserve the right to lower the cutoff points to avoid “unfair” discrepancies between grades.

**Make-up exams:** Valid excuses for missing an exam are stated under “Excused Absences” in the “Attendance” section of the “Student Rules at Texas A&M University” (http://student-rules.tamu.edu/rule7.htm). If you have a valid reason for missing an exam, notify me by telephone before the test is given. A make-up test will be scheduled as soon as possible.

**Incompletes:** A grade of Incomplete (I) will be given only for the reasons stated in “Student Rules at Texas A&M University” (http://student-rules.tamu.edu/rule10.htm).
Help With the Course

From me: I will be available to answer questions during my office hours. If you can’t see me at those times, please make an appointment for some other time. If you call my office and I’m not in, leave your name and number with the secretary. I’ll get in touch with you as soon as possible.

Website: Various information will be passed along to you at the course website, which I suggest that you visit on a daily basis. The most important info will be notes that I present in class. Announcements, homework assignments and solutions to homework and tests will also be posted at the website.

TA: Qi Wang, the teaching assistant who will grade your homework, will have office hours during which you can ask her questions about the course. See the course website for her office hours.

Tutors: A list of persons who tutor (for a price) can be picked up in the Statistics Department office, room 447 Blocker.

Prerequisites

STAT 651 or an equivalent course is the only prerequisite for this class. The material covered in 651 is more or less the first eleven chapters of Ott and Longnecker. Some knowledge of how to use computers is helpful, although not absolutely necessary. You will learn enough about SPSS in class to be able to complete homework assignments.

Course Outline

Regression and Correlation: Review of simple linear regression; general linear model; matrix notation; least squares estimates; statistical inference for the general linear model; prediction; polynomial regression; collinearity; variable selection; checking assumptions (Chapters 11–13).

··· Test I ···

Design and Analysis of Experiments: Completely randomized design; randomized block design; factorial experiments; analysis of variance for these designs; contrasts; random and fixed effects (Chapters 14–15, 17).

Analysis of Covariance: Use of dummy variables in regression; testing for equality of slopes and for equality of treatment means (Chapter 16).

··· Test II ···

Analysis of Categorical and Count Data: Review of one and two sample binomial procedures; multinomial experiment; chi-squared goodness-of-fit test; two-way contingency tables (Chapter 10).

Sampling: Simple random sampling; stratified samples; cluster samples; planning a survey (Class notes).
HOW TO GET ACCESS TO THE TEXTBOOK

1. If you do not have a DOSTAT account, go to http://dl.stat.tamu.edu/dostat and register.
2. After logging in to DOSTAT, click on Add course.
3. The course number is DS-22 and the registration code is validation. You can now access the book.
4. After logging in to DOSTAT, click on Statistics in Research II in the course list. Click on Files, to the left. Click on Textbook to get the files. Click on the desired part of the book to get a pdf file for that part.

STATEMENT ON DISABILITIES

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation for their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services in Room B118 of Cain Hall. The phone number is 845-1637.

STATEMENT ON PLAGIARISM

The handouts used in this course are copyrighted. By “handouts,” I mean all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission. As commonly defined, plagiarism consists of passing off as one’s own ideas, words, writing, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules, under the section “Scholastic Dishonesty.”