

Statistics 212 – Principles of Statistics II

Class Information Section 501, Fall 2006

<i>Time and Place:</i>	MWF 9:10–10:00, Blocker 150.
<i>Instructor:</i>	Prof. Daren Cline, Blocker 459D, 845-1443. e-mail: dcline@stat.tamu.edu
<i>Office Hours:</i>	MWF 10:20–11:30 or by appointment.
<i>Course Web Page:</i>	http://stat.tamu.edu/~dcline/212.html
<i>Grader:</i>	Rajesh Talluri, Blocker 422, 845-8889. Office hours: TBA. e-mail: rtalluri@stat.tamu.edu
<i>Text:</i>	J.L. Devore, <i>Probability and Statistics for Engineering and the Sciences</i> , 6th ed., Duxbury.
<i>Notes and Handouts:</i>	You are also expected to download lecture notes and other handouts as they become available on the course web page. You will be required to login; userid and password will be provided when the semester begins.
<i>Computing:</i>	I will provide examples using both Minitab and SAS, also on the course web page. You may use either statistical package for homework. The computers in the Open Access Labs have both and Minitab comes with the textbook. You may get SAS from SELL (http://cis.tamu.edu/customer-sales/sell/studentsas.php).
<i>Prerequisite:</i>	Statistics 211 or equivalent (calculus based introduction to statistics).
<i>Homework:</i>	Homework is worth 20% of the total term score. None may be dropped. It will be assigned on the course web page and collected regularly. Late homework will not be accepted without an approved excuse. Method and communication are as important in this course as are final solutions. Homework is to be detailed and clear, with all steps provided, on 8½×11 paper and stapled. Computer output should be pasted into solutions as needed. <i>Please see the homework policy below.</i>
<i>Exams:</i>	There will be two midterm quizzes worth 22.5% each and a final worth 35%. All exams are cumulative and closed book. You will be allowed to bring statistical tables and one additional page (8½×11) of notes per exam. <i>Please see the exam policy below.</i>
<i>Exam Dates:</i>	Exam I: TBA Exam II: TBA Final Exam: Monday, 11 December, 8:00am–10:00am.
<i>Grading Scale:</i>	A: 85% – 100% B: 75% – 85% C: 60%– 75% D: 50% – 60%

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Homework Policy:

Your homework solutions must be your own work, not from outside sources, consistent with the university rules on academic integrity. I expect you to follow this policy scrupulously. Your exam performance is much more likely to be better.

You may use:

- Your textbook and notes from this class.
- Your notes, homework, etc., from a related class that you took or are taking.
- Discussion with the instructor or grader.
- Voluntary, mutual and cooperative discussion with other students currently taking the class.

You may *not* use:

- Solutions manuals (printed or electronic) and copies of pages from solutions manuals.
- Solutions from previous classes.
- Solutions, notes, homework, etc., from classes taught elsewhere or at another time.
- Solutions, notes, homework, etc., from students who took the class previously.
- Copying from students in this class, including expecting them to reveal their solutions in "discussion".

Exam Policy:

Each exam will be comprehensive, cumulative and closed book.

Acceptable resources are:

- A calculator for numerical calculations only.
- Statistical tables. (Make your own copies. I have versions available on the class web page.)
- One page (8½×11, both sides) of notes for the first exam, two pages for the second exam and four pages for the final exam. These *must* be of your own construction, not copied from somewhere else.

No other resources are acceptable.

Practice exams will be available on the class web page.

Missed Work and Incompletes:

This is based on university policy.

- If you must miss an exam due to illness or circumstances beyond your control, notify me or the Statistics department *before* the exam. See me immediately after you return (within one day) to schedule a make-up exam.
- An incomplete will be given only in the event that circumstances beyond your control cause prolonged absence from class and the work cannot be made up.

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Course Outline

<i>Topic</i>	<i>Chapters</i>
<i>Introduction</i>	
<i>I. Estimating Distributions</i>	<i>1, 4, 8</i>
a. histogram, density plot, box-plot (review)	1.1–1.4, 4.1
b. cumulative distribution, quantile plot (review)	4.2, 4.6
c. hypothesis tests (review)	8.2, 8.4
<i>II. Regression and Correlation</i>	<i>5, 12, 13</i>
a. correlation and conditional expectation (review)	5.1–5.2
b. simple linear regression (review)	12.1–12.4
c. inference for correlation	12.5
d. checking for violations of assumptions	13.1
e. polynomial and nonparametric regression, transformations	13.2–13.3
f. multiple linear regression	13.4
g. model selection and other issues	13.5
<i>III. Design and Analysis of Experiments</i>	<i>10, 11, 15</i>
a. completely randomized design (review)	10.1
b. multiple comparisons and contrasts (review)	10.2
c. assumptions, transformations and Kruskal-Wallis test	10.3, 15.2, 15.4
d. randomized block design, Friedman test	11.1, 15.4
e. factorial experiments and interaction	11.2–11.4
f. random and mixed effect models	10.3, 11.2
g. general linear models, covariate analysis	
<i>IV. Analysis of Categorical and Count Data</i>	<i>2, 3, 5, 8, 9, 13, 14</i>
a. one and two sample binomial procedures (review)	3.4, 3.6, 8.3, 9.4
b. multinomial experiments	5.1, 14.1
c. chi-squared goodness of fit test	14.1–14.2
d. conditional probability, independence (review)	2.4–2.5
e. contingency test, homogeneity test, McNemar test	14.3
f. logistic regression	13.2
<i>V. Methods for Percentiles</i>	<i>15</i>
a. sign test, tests for percentiles	15.1
b. confidence intervals	15.3
c. median regression	