

Course Policies and Syllabus

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Office Hours: by appointment

Webpage: [http : //www.soe.ucsc.edu/classes/ams05/Summer09/](http://www.soe.ucsc.edu/classes/ams05/Summer09/)

Lectures: M, W, F 1:00–3:30pm, in Basking Engr. 165

Course Description: Introduction to statistical methods and reasoning. Statistical methods are useful in dealing with situations that are subject to uncertain outcomes. We will develop skills that will allow for the incorporation of the uncertainty into the analysis of quantitative problems. We will study how data are collected and described (experimental design and sample surveys), probability, the law of averages, expected value, standard error, confidence intervals, and tests of significance, one- and two-sample problems, correlation and regression. Emphasis on applications to the natural and social sciences.

Text and Reading: The text for the course is *Statistics*, by Freedman, Pisani and Purves, 4th edition (2007). We will be covering a lot of ground in a short amount of time, so you need to immerse yourself in the material. In particular, I assume that you read the relevant parts of the text before the material is discussed in class. The lectures are planned with this assumption in mind, and you may find them much harder to follow if you do not read ahead.

Course Grade: Exams: There will be three short exams, and a comprehensive final. The short exams will be held in class. Each of these will be approximately 45 minutes long, and test the material covered since the previous exam. The comprehensive final will be in class on Friday, 7/24, and will take the entire class time. The combined score of your three short exam scores will be compared to your final exam score. The higher of the two will count for 65% of your course grade and the lower of the two will count for 35% of your course grade.

Exam Guidelines: All exams will be closed book. One 3x5 index card For notes will be allowed. Please always bring a calculator capable of taking square roots, logs and exponentials. There will be no make-up exams. Barring a well-documented (medical) emergency, make-up exams will not be given. As a rule, you shouldnt miss class, and you certainly shouldnt miss any of the exams. (A note from a family member is not sufficient. A note from a physician saying that you were seen for a problem is not sufficient. Minor illnesses are not valid reason for missing an exam.)

Homework: Homework will be assigned daily, but not collected. Working on the homework is the best way to assimilate the material of this (or any) course, especially in the

condensed, five-week format of Summer Session.

Course Calendar:

WEEK	TOPICS	READING
(1st wk) Jun 22–26	Data types, sampling, mean and standard deviation, Normal curve and experiment design	Ch. 3, 19, 4, 5, 1, 2
(2nd wk) Jun 29-Jul 1 Fri, Jul 3	Probability, Independence and Law of Averages Academic Holiday (no classes)	Ch. 13, 14, 16
(3rd wk) Jul 6–10	Probability and Statistics models, expected value and standard error, Central Limit Theorem	Ch. 16, 17, 18, 6
(4th wk) Jul 13–17	Estimating averages and percentages, confidence intervals and tests of significance, comparing two samples	Ch. 23, 24, 20, 21, 26, 27
(5th wk) Jul 20–22 Fri, Jul 24	Correlation coefficient and Regression Lines Comprehensive Final Exam	Ch. 8, 9, 10, 11, 12

NOTE: If you qualify for classroom accommodations because of a disability, please submit your Accommodation Authorization from the Disability Resource Center (DRC) to me right away. Because of the accelerated nature of Summer Session, it is essential that you contact the DRC as soon as possible. They can be reached at 459- 2089 (voice), 459-4806 (TTY).