

Course Policies and Syllabus

Instructor	Robin Morris
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Office Hours	Tuesday, 11-noon, Thursday 1-2pm

Web page: <http://www.soe.ucsc.edu/classes/ams005/Winter09/>

Lectures: Tuesday, Thursday, 4-5.45pm, Jack Baskin Auditorium 101

Required Text: Statistics, (4th edition), Freedman, Pisani and Purves, W.W. Norton and Company.

Course Objectives: To introduce the basic ideas of probability and statistics with emphasis on applications to the natural and social sciences, and everyday life. While we will do some calculations, the main emphasis is understanding the concepts, and learning to interpret results.

Homework: Homework will be assigned, but will not be collected nor graded. Answers to most homework problems are in the back of the book, and time in sections can be used for additional help with homework problems. The point of homework is to help you learn and understand the material, so do try to do the homeworks. Doing the homework problems will help you succeed in the in-class quizzes.

Section: Section attendance is required. The first half will be problem sessions where you work in pairs and get checked off by the TA. The second half is optional, and the TA will work through additional examples and answer questions. Quizzes will be returned only during sections.

Reading: There is a lot to get through, so the course will go quite quickly. You are expected to keep up with reading the relevant sections of the text.

Quizzes: There are six quizzes currently scheduled. They will be based on the homeworks. May quiz questions will be very similar to the homework problems. The quizzes are closed book, but you should bring a calculator. You must show all work for full credit. Your lowest quiz score will be dropped. This will account for almost all reasons you might have to miss class, including illness.

Exams: There will be an in-class midterm on Thursday February 5th, and a final exam on Wednesday 18th March. The date of the final exam is set by the registrar. Both exams are closed book, but you may bring one $8\frac{1}{2} \times 11$ in. piece of paper with notes on both sides. Be sure to bring a calculator. The midterm will examine all material covered up to that point, and the final will be comprehensive. You must show all work for full credit.

Course Grade:

Quizzes:	30%
Section:	15%
Midterm:	20%
Final	35%

Date	Book Chapters	Topics
Jan 6		Introduction; Why statistics? Data types
8	1,2	Controlled experiments; observational studies
13	19,3	Sample surveys; the histogram
15	4,5	Average and standard deviation; Normal approximation (quiz)
20	13	Introduction to probability
22	14	More probability (quiz)
27	16	Law of averages
29	17,18	Expected value and standard error; Normal approximation for probability histograms (quiz)
Feb 3		Review
5		Midterm Exam
10	20	Chance errors in sampling
12	21,23	The accuracy of percentages/averages
17	26	Hypothesis testing
19	27,28	More hypothesis testing (quiz)
24	29	A closer look at tests of significance
26	6,7	Measurement error; plotting (quiz)
Mar 3	8,9	Correlation
5	10	Regression (quiz)
10	11,12	RMS error for regression; regression line
12		Review
18th		Final Exam