Course Policies and Syllabus

Instructor	Robin Morris
Office	Baskin engineering 373
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Phone	(408) 821 8932; email is much preferred
Office Hours	Tuesday, 1-2pm, Thursday 12:30-1:30pm

Web page: http://ams005-winter16-02.courses.soe.ucsc.edu

Lectures: Tuesday, Thursday, 10-11.45am, J. 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 for each topic. Part of your section credit will be for showing that you have attemped a good proportion of the assigned homework. The point of homework is to help you learn and understand the material, so please do put some effort into the homeworks. Doing the homework problems will help you succeed in the in-class quizzes.

Section: Section attendance is required. Sections are your main avenue for help with understanding the course, and for working through homework problems you have difficulty with. Use the section time constructively, and it is of great benefit. Quizzes will only be returned during sections. You can miss one section and still get full section credit.

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 five quizzes currently scheduled. Many 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 Tuesday February 9th, and a final exam on Monday 14th March at noon. The date and time 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:	20%
Section:	20%
Midterm:	25%
Final	35%

Date	Book Chapters	Topics
Jan 5		Introduction; Why statistics? Data types
7	1, 2	Controlled experiments; observational studies
12	19	Sample surveys
14	3, 4	The histogram; The average (quiz)
19	4, 5	Standard deviation; Normal approximation
21	13	Introduction to probability
26	14	More probability
28	15, 16	Binomial Probability; Law of averages (quiz)
Feb 2	17	Expected value and standard error
4		Review
9		Midterm Exam
11	18, 20	Normal approximation for probability histograms; Chance errors in sampling
16	21, 23	The accuracy of percentages/averages
18	26	Hypothesis testing (quiz)
23	27, 28	More hypothesis testing
25	29	A closer look at tests of significance (quiz)
Mar 1	29; 6, 7	More on significance tests; Measurement error; plotting
3	8, 9, 10	Correlation; Regression (quiz)
8	11, 12	RMS error for regression; regression line
10		Review
Mon 14th	noon-3pm	Final Exam