

## Course Policies and Syllabus

Instructor	Robin Morris
Office	Baskin engineering 133
Email	rdm@soe.ucsc.edu (please put AMS5 in the subject line)
Phone	(650) 966 5035, email is much preferred
Office Hours	Tuesday, 11-noon, Thursday 1-2pm

**Web page:** <http://www.soe.ucsc.edu/classes/ams005/Fall09/>

**Lectures:** Tuesday, Thursday, 4-5.45pm, Earth and Marine B206

**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, will will also emphase 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. 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 wiht reading the relevant sections of the text.

**Quizzes:** There are five quizzes currently scheduled. They will be based on the homeworks. 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 October 27th, and a final exam on Tuesday December 8th. The date (and in particular, the 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.

**Accomodation for Disabilities:** Please see me during office hours.

**Course Grade:** Quizzes: 25% Section: 15%  
Midterm: 25% Final 35%

Date	Book Chapters	Topics
Sept 24		Introduction; Why statistics? Data types
29	1,2	Controlled experiments; observational studies
Oct 1	19,3	Sample surveys; the histogram
6	4,5	Average and standard deviation; Normal approximation (quiz)
8	13	Introduction to probability
13	14	More probability (quiz)
15	16	Law of averages
20	17,18	Expected value and standard error; Normal approximation for probability histograms (quiz)
22		Review
27		Midterm Exam
29	20	Chance errors in sampling
Nov 3	21,23	The accuracy of percentages/averages
5	26	Hypothesis testing
10	27,28	More hypothesis testing (quiz)
12	29	A closer look at tests of significance
17	6,7	Measurement error; plotting (quiz)
19	8,9	Correlation
24	10	Regression (quiz)
Dec 1	11,12	RMS error for regression; regression line
3		Review
8	7.30-10.30pm	Final Exam