## Earth and Planetary Science 120/Energy and Resources 130 Analysis of Environmental Data

Fall 2005 Organizational Information

**Registration:** Earth and Planetary Science C120 -- or -- Energy and Resources C130

Class meets: Tuesday & Thursday 11:00-12:30, Room 60 Evans Hall

Web site: http://socrates.berkeley.edu/~epsc120/

**Professor:** James Kirchner

479 McCone Hall, 643-8559

kirchner@seismo.berkeley.edu (see important note below)
Office hours Tuesday 1:00-2:30 or by appointment

TA's: Edward Davis Wren Montgomery

5008 VLSB, 642-5318 408A McCone Hall, 643-8371 daviseb@berkeley.edu wren@eps.berkeley.edu

TA office hours Monday 12-2 in 55A McCone Hall and Wednesday 2-4 in 5008 VLSB

**Textbooks:** Required: Zar, *Biostatistical Analysis*, 4th Ed., Prentice-Hall, 1999 (3rd edition also OK).

Required: SAS Institute, JMP Start Statistics, 3rd Ed., ISBN 0-495-01537-7

(includes JMP IN v. 5.1 software for windows/mac/linux -- you *need* version 5.1) Required: EPS120 course reader -- get it at Copy Central, 2560 Bancroft, 848-8649

**Assignments:** 

- 1) approx. 12 weekly problem sets (30% of final grade)
- 2) Midterm project (20% of final grade)--Handed out Oct. 13, DUE OCTOBER 27 3) Final project (30% of final grade)--Handed out Nov. 22, DUE DECEMBER 13
- 4) Weekly labs (20% of final grade)

Problem sets will normally be handed out on Thursdays, and will be due the following Thursday; they can be handed in at class, or up to 5 PM in the EPS120 drop box in 340 McCone Hall. *Late homework will be docked 50%*. Whenever possible, graded problem sets will be returned the following Tuesday.

Midterm and final projects will involve "real world" problems in data analysis, similar to those that might be encountered by environmental scientists, consultants, and policy advisors. Students will be expected to prepare a concise report explaining their analysis and justifying their conclusions.

Lab:

Lab sessions are held in 1535 Tolman Hall. They start the 2nd week of classes. Section 1: Mondays, 2-5PM\*\* Section 2: Tuesdays, 4-7PM Section

Section 1: Mondays, 2-5PM\*\* Section 2: Tuesdays, 4-7PM Section 3: on your own! Students who cannot come to the scheduled lab sections can arrange to do the labs on their own schedule, by enrolling in Section 3. However, those who are unsure of their computer or math skills should not "freelance" the lab, since if you have problems we won't be there to help you.

\*\*Because Monday Sept. 5 is a holiday, Section 1 *for that week only* will be held on Wednesday from 4 to 7PM. If you're in Section 1 and can't make the alternate session, do the first lab on your own.

Completed lab assignments should be turned in either at the end of lab, or at Thursday's class, or by 5PM Thursday in the EPS120 drop box in 340 McCone Hall (which is also the deadline for those "freelancing" in Section 3). Labs will normally be graded and returned by the following lab session.

Important notes:

You *must* have a *working* e-mail address on file with the university (this is a university requirement), and you *must* check it regularly. You *will* be held responsible for any course advisories, updates, etc. that are distributed by e-mail. These will be sent to whatever e-mail address that the university had on file for you at the beginning of the semester (so don't change it!).

Please try not to e-mail Prof. Kirchner with too many individual queries; he suffers the after-effects of RSI and can't type much. If you e-mail him, please try to ensure that your query would have a one-line answer (or better yet, a *one-word* answer).

Some other books of interest:

Helsel, D. R. and R. M. Hirsch, *Statistical Methods in Water Resources*, 1992, now available as <u>free</u> PDF. Ramsey, F. L. and D. W. Schafer, *The Statistical Sleuth*, 2nd edition, Duxbury Press, 2002.

Morgan, M. G. and M. Henrion, *Uncertainty*, Cambridge University Press, 1990. Taylor, J. R., *An Introduction to Error Analysis*, University Science Books, 1982. Tufte, E. R., *The Visual Display of Quantitative Information*, Graphics Press, 1983.

Norman, G.R. and D.L. Streiner, *PDQ Statistics*, B.C. Decker, 1986.