Health Research and Policy 261 = Statistics 261
Winter Quarter, 2003

INTERMEDIATE BIOSTATISTICS:
ANALYSIS OF DISCRETE DATA

Class information: www-stat.stanford.edu/~olshen/hrp261win03/
McCullough Building, Room 122
Monday 10 am - 10:50 am; Wednesdays, 3:15 am - 4:45 pm
First class, January 8; last class, March 12

Instructor: Richard Olshen
Sequoia Hall, Room 228
HRP Redwood Building, Room T152A
Office hours: Thursdays, 4:15 pm to 5:30 pm
or by appointment olshen@stat.stanford.edu

Co-instructor: Kristin Cobb
HRP Redwood Building, Room 238
Office hours: to be announced or by appointment kcobb@stanford.edu
Phone: 498-6784

Required texts: An Introduction to Categorical Data Analysis
by Alan Agresti

Helpful additional books: Categorical Data Analysis Using the SAS System, 2nd Edition
by Maura E. Stokes, Charles S. Davis, and Gary G. Koch
SAS Institute, 2000

Logistic Regression A Self-Learning Text, Second Edition
David G. Kleinbaum and Mitchel Klein
Spring, 2002

Applied Logistic Regression, Second Edition
by David W. Hosmer and Stanley Lemeshow
Wiley Series in Probability and Statistics, 2000

For the most part the course will cover material described in the Stanford Bulletin. Thus, we will analyze proportions in both one and two-sample cases. In conjunction with this we will discuss the 2x2 table, chi-square and Fisher's exact test; odds ratios; sampling plans, case control and cohort studies, series of 2x2 tables; the Mantel-Haenszel statistic; kxm tables; matched data including the McNemar statistic and the kappa measure of agreement; logistic models, including conditional logistic analysis and application to case-control data; some log-linear models; and such special topics as time allows and your interests dictate. Special topics will be reserved for the last two class meetings.
The order of topics will follow closely what is in the first six chapters and part of Chapter 9 of the excellent required text by Agresti. In addition, copies of various papers and parts of books will be shared.

There will be four required homework exercises; each will count for 12.5% of your grade. They will be due Wednesday, January 22; Monday, February 3; Wednesday, February 26; and Monday, March 10. Examinations will be take-home. The single midterm will be due Wednesday, February 12. It will count 20%, and the comprehensive final 30%.

Much material will be posted on the Web site, URL listed in the previous.

The hope is that this course will be both fun and educational for everyone.

**Course Material**

- Handouts
- Assignments