Synopsis. This course is designed to provide students with tools for analyzing categorical, count and time-to-event data frequently encountered in medicine, public health and related biological and social sciences. The course will emphasize application of the methodology rather than statistical theory, including recognition of the appropriate methods, interpretation and presentation of results. Methods covered include: contingency table analysis, logistic regression, log-linear (Poisson) regression, conditional logistic regression, ordinal data regression, Kaplan-Meier survival analysis, Cox proportional-hazards survival analysis.

Time and location. TTh 10:30–11:50 am, BSLC 202.

Instructor. Ronald Thisted. Office: AMB W250 (834-1242). Office hours by appointment (call Sara Horn, 834-1242 to make an appointment). Email: thisted@health.bsd.uchicago.edu. Email me any time; I often am able to respond at night and on weekends.

Prerequisites. A first course in regression analysis, such as Health Studies 324, Statistics 224, or Statistics 343, or consent of the instructor. Facility with the statistical package Stata is assumed, and this package will be used in the course.

Course Website. http://health.bsd.uchicago.edu/thisted/hs327/
All homework assignments, class handouts, and other course documents will be posted here, generally within 24 hours of each class meeting. A link to the course website will be placed on the Chalk system (listed under “HSTD-32700 Biostatistical Methods” for Winter Quarter). Other than this link, I expect to use the Chalk system only for posting announcements between class meetings (such as for corrections to the homework assignment, clarifications, or changes in due dates).

Texts


Course Requirements.
• Homework. There will be 6–8 homework assignments.

• Mid-term exam. Thursday, February 8, 2007, in class. The midterm will be closed book and will cover material covered through the previous class session.

• Final exam. Thursday, March 15, 2007, 10:30-12:30.

Grading and Feedback. The final grade will be based 50% on the problem sets and 50% on the exams. To provide timely feedback, the grader will not be able to give detailed individual comments, but a set of solutions will be provided when the papers are returned with comments about major issues and areas of difficulty.

Problem set solutions. The solutions are a key part of the course. You are responsible for material contained in the solution sets, so you should read them carefully and compare them to your own solutions.
Policies.

1. **Late assignments.** Problem sets are due at 5 pm on the assigned date, and must be received at my office (AMB W250) by that time. Late homeworks received within 24 hours of the deadline will be accepted, but can receive a maximum grade of 80%. No submissions will be accepted after that time, since solutions are posted.

2. **Email submissions.** Email submission of homework is acceptable only by prior arrangement with me, but it is discouraged. If you do submit via email, you need to insure that I can read and/or print what you send. I can read plain text, Microsoft Word, and PDF formats. Note that equations entered into Word on a Windows machine do not reproduce correctly on the Macintosh (which is what I use). Also note that PDF files that use nonstandard fonts must have those fonts embedded in the document.

3. **Computer output in submitted work.** Statistical programs use a monospace font for their output so that columns line up clearly. If you cut and paste this output to a Word document, the formatting (including font) is lost, and the columns no longer align properly. You should change the font (and if necessary, the font size) of included computer output so that it uses a monospace font such as Courier.

4. **Changes and corrections to assignments.** I post corrections (and sometimes, additions) to the problem sets on the course web site. Changes to the due dates or times are also posted. These postings will appear in the “Announcements” area on the site (not Chalk). You are responsible for checking the web site regularly.

5. **Office hours and consultation.** I am happy to meet with you any time that I can, but for answering questions about the lecture or homework, email often is faster and more satisfying. Please feel free to send me email at any time; I will respond as soon as I am able. To help your email stand out for a rapid reply, please put “327” in the Subject line.

6. **Non-Stata statistical programs.** The official statistical software for this course is Version 9 of Stata, which is available at the Crerar computing cluster and at other locations. You may use other programs at your own risk. In particular, there are things that are easy to do in Stata that are difficult or impossible to do using your favorite package. If you use another program, you are expected to know how that program differs from Stata (if it does), and you are still responsible for a full and complete solution to the problem.

7. **Collaboration.** [The following statement is adapted from the syllabus for MIT 6.042, “Mathematics for Computer Science,” Fall 2002]

   We encourage you to collaborate on homework. Study groups can be an excellent means to master course material (besides, they can be fun and a good way to make friends.) **However, you must write up solutions on your own, neither copying solutions nor providing solutions to be copied.** This also applies to sets of computer commands for Stata and to Stata output. If you do collaborate on homework, you must cite, in your written solution, all of your collaborators. Also, if you use sources beyond the course materials in one of your solutions, e.g., an “expert” consultant, another text, or material other than the text or handouts, be sure to include a proper scholarly citation of the source.

   We strongly discourage, but do not forbid, use of materials from earlier quarters to which a student may have access. Use of such material requires a proper scholarly citation; omission of such citation will be taken as a priori evidence of plagiarism subject to serious penalty. Plagiarism, cheating, and similar anti-intellectual behavior are serious violations of academic ethics and will be correspondingly penalized. If you are concerned about a possible violation of this kind, please talk with the instructor. We understand the pressure that students may experience, and we will try to help as best as we can. It is better if you take the initiative to contact us in such cases, rather than vice-versa.

   **Collaboration of any sort on the examinations is not permitted.**