HS237B. Introduction to Health Services Research Methods

Winter 2007,
Mondays, Wednesdays, Fridays 12-1:50 pm
Mondays and Wednesdays in SPH 61-235
Fridays in the Public Health Student Computer Lab A1-241

Syllabus (updated 1/22/07)

Instructor: Ninez Ponce
TA: Janet Cummings Link

HS 237B is the second course of the HS 237 health services research methods series. This course provides a foundation for using econometric methods using secondary datasets to investigate research questions in health services. Course topics include specification of regression models for continuous and categorical dependent variables with appropriate standard error adjustments and if relevant, application of survey weights. The course builds on knowledge gained in HS 237A and M 422 about study designs, and statistics learned in Biostatistics 200A and 201. HS237B also prepares the student for advanced empirical methods covered in HS 237C.

Lectures, lab sessions, sample code, readings, and 5 homework assignments will illustrate the methods. Demonstration of the student's knowledge and understanding of the material will culminate in an empirical research paper that addresses a research question using multivariate analysis.

The student will leave this course with an understanding of how to: (1) conduct sound empirical analyses using secondary data, (2) present findings in a coherent paper with a conceptual model that is suitable for submission to a peer-reviewed health services journal, and (3) use the STATA statistical package to prepare the data for analysis, estimate regression models and run post-estimation commands associated with topics covered in the course. To ensure successful STATA and dataset management training, and review of helpful math and probability and statistics, sessions focusing on these skill sets have been scheduled at various points throughout the course.

Grades will be based on class participation (5%), homework assignments (45%) and a final research paper (50%). Due dates for each assignment will be posted on the class web site. A separate document provides details on instructions regarding the final paper and how it will be graded.

Three textbooks are required:

1. Wooldridge, Jeffrey M. *Introductory Econometrics, 3rd Edition*. Thompson South-Western, 2006.
2. Long, Scott J. *Regression Models for Categorical and Limited Dependent Variables.* Advanced Quantitative Techniques in the Social Sciences Series Volume 7. Thousand Oaks, CA: Sage Publications, Inc., 1997.
3. An Introduction to Modern Econometrics Using Stata Christopher F. Baum Stata Press, 2006

Two books are optional:

3. Kennedy, Peter, *A Guide to Econometrics, 5th Edition*, Cambridge, MA: MIT Press, 2003.
5. Freese J., Long J.S.., *Regression Models for Categorical Dependent Variables Using Stata, 2nd Edition*, College Station, TX: Stata Press, 2005.

A detailed reading list for each session will be provided in a separate document and will be posted on the course website. In addition to methodological articles, readings in the health services literature that use the methods described will be assigned. A link to the UCLA library is provided if the reading is accessible online. Hardcopies of materials that are not available online will be put on reserve at the UCLA Biomed Library during the winter quarter of 2007.

Course Schedule

Week		Date	Topic
1	1	08-Jan-07	Overview of course ; Introduction to health services research and definitions
	2	10-Jan-07	Missing data, single imputation, multiple imputation
	3	12-Jan-07	Lab
2		15-Jan-07	No Class: MLK Holiday
	4	17-Jan-07	Sampling theory, survey weights, clustered samples part I
	5	19-Jan-07	Lab
3	6	22-Jan-07	Sampling theory, survey weights, clustered samples part II
	7	24-Jan-07	Generalized Estimating Equations
	8	26-Jan-07	First-difference, and fixed effects
4	9	29-Jan-07	Random effects *Homework #1 due (covers lectures 1-6)*
	10	31-Jan-07	Multi-level models
	11	02-Feb-07	Lab
5	12	05-Feb-07	Utility theory framework for qualitative choice models; logit and probit *Homework #2 due (covers lectures 7-10)*
	13	07-Feb-07	Logit and probit models (continued); Interactions in logit and probit models
	14	09-Feb-07	Lab
6	15	12-Feb-07	Taylor series expansions and bootstrapping
	16	14-Feb-07	Simulation methods
	17	16-Feb-07	Lab *Homework #3 due (covers lectures 12-13)*
7		19-Feb-07	No Class: President's Day Holiday
	18	21-Feb-07	Review of material; Instruction for writing paper proposals
	19	23-Feb-07	Lab *Homework #4 due (covers lectures 12-18)*
8	20	26-Feb-07	Multinomial logit and probit models
	21	28-Feb-07	Ordered logit models
	22	02-Mar-07	Lab *Paper proposals due*
9		05-Mar-07	No class
	23	07-Mar-07	Discussion of paper proposals *Homework #5 due (covers lectures 20-21)*
	24	09-Mar-07	Continuation of discussion of paper proposals
10	25	12-Mar-07	Review of material; Instruction for writing papers *Descriptive Statistics for paper due*

26	14-Mar-07	Wrap up of course
		PAPERS DUE: FRIDAY, MARCH 23