COURSE DESCRIPTION

Advanced Multivariate Statistics is an elective sequel to the Sociology Department's required course, G93.2332, Introduction to Statistics. Prospective students from outside the Sociology Department should consult the instructor regarding their preparation for this course. Students at Consortium universities and auditors are welcome with consent of the instructor. Students who anticipate doing quantitative research are strongly advised to take this course.

The course has several goals: to extend students' command of statistical techniques beyond those covered in the required Statistics and Methods courses, with an emphasis on the analysis of non-experimental social-science data; and to deepen students' understanding of the conceptual and mathematical underpinnings of statistical methods. Instruction in computer applications will be provided in class. Mostly we will be working in Stata. Course grade will be based on homework assignments and a paper using methods taught in class. Illustrations will be drawn from the social science literature.

Topics I plan on covering include maximum likelihood estimation, the general linear model (including binary, multinomial and ordinal, logits and probits, models for counts, zero-inflated models), censored and truncated dependent variables, sample selection bias, endogeneity, instrumental variables, path analysis, structural equation modeling, measurement models, propensity score matching, regression discontinuity, methods for handling missing data, and Bayesian statistics.

The course will meet Tuesday evenings from 6:20 to 9 PM in a computer lab.