The purpose of this course is to better acquaint students with the methodological issues of research design, data analysis, measurement, and assessment widely used in health services research. To deal with these methods, the course will use a combination of readings, lectures, problem sets (using STATA), and discussion of applications. In addition, students will complete either a research paper or a critical methodological evaluation of articles from the literature in one area of application, such as the volume-outcome relationship in cardiovascular surgery. The course assumes that students have had a prior course in statistics, including the use of linear regression methods.

The final grade for the course will depend on several problem sets (40%), class participation (10%), an exam (25%), and the paper (25%). The exam will be held approximately 3/4 of the way through the quarter. Any dates noted in the syllabus are tentative.

The primary reading material is excerpted from several econometrics and research design texts:


Required readings, including applications listed in the syllabus and excerpts from the above texts, can be found on Chalk. The following are additional sources that students may find useful:

- STATA manuals


All required course readings will be on Chalk. Problem sets should be completed using STATA version 9 (Intercooled or SE), available in Usite, Regenstein and Crerar. Check [www.stata.com](http://www.stata.com) for helpful information.
Topics and Readings

I. INTRODUCTION

A. What is Health Services Research?


B. Methodology, Causality, and Hypothesis Testing

Cook and Campbell, Chapter 1. (Also see Trochim.)

C. Validity

Cook and Campbell, Chapter 2. (Also see Trochim.)

II. RESEARCH DESIGN AND DATA ANALYSIS: EXPERIMENTAL AND QUASI-EXPERIMENTAL APPROACHES

A. Randomized Controlled Trials in HSR

Cook and Campbell, Chapter 8


B. Special Issues in Cross-Sectional Designs (OLS, logit/probit, hierarchical structures, interaction terms, clustering, estimating and interpreting magnitudes)


Stock and Watson, pp. 297-322.


Applications:


C. Panel Data (FE, RE, clustering, d-d models)

Woodridge, pp. 426-475.
Stock and Watson, pp. 382-388 and 271-295.

Applications:


D. Selection/Censoring/Truncated Data Models (2-part, Heckman, Tobit, duration models)

Woodridge, pp. 553-592.
Kennedy, pp. 249-262.

Applications:


E. Selection/Omitted Variables (Propensity Scores, Instrumental Variables)

Woodridge, pp. 484-514.
Stock and Watson, pp. 331-366.
Applications:


III. ANALYSIS OF SURVEY DATA


[EXAM]

IV. QUALITATIVE RESEARCH


Applications:


V. POWER, MEASUREMENT AND RELIABILITY

Shi, Chapter 12.


Applications:


Final paper due June 9.