

**University of Wisconsin - Madison
School of Social Work**

**Social Work 952, Ph.D. Proseminar in Applied Quantitative Data Analysis
Spring 2017 Syllabus**

Wednesday 8:30-11:30, Social Work 114

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Office hours: by appointment

I. Description

The course focuses on giving graduate students skills in applied quantitative data analysis. This course fulfills a requirement for a seminar in applications of research methods for the PhD in social welfare and is open to advanced MSW students and interested graduate students from other departments with instructor consent.

II. Objectives and overview

The course is built around each student completing a quantitative research paper on a topic of their choosing; ideally, the paper will be submitted for publication in a peer review journal after completion of the course. It has the following objectives: (1) to increase students' knowledge of methodological problems and issues faced in applied quantitative research; (2) to give students hands-on experience in all phases of a quantitative analysis research paper, from the proposal to selecting data and methods, to analyzing results, to writing the paper; (3) to introduce students to a variety of statistical techniques that may be appropriate for their future research; and (4) to give students experience in presenting their own research and acting as a discussant for the research of peers.

Course activities consist of: (1) joint reviews of students' proposals for their papers, as if the class were a review panel; (2) an overview of selected quantitative analysis approaches and methods; (3) ongoing discussions of topics that arise while doing quantitative research; and (4) class presentations of final papers with discussants, as if the class were a professional conference session.

This course is most relevant for students who have two of the following in place: (a) a research question; (b) familiarity with a dataset that can be used to answer the question, and (c) statistical programming skills. The instructor will provide a dataset if a student needs one.

III. Texts and reading material

There are no required textbooks. Required readings will be posted on the class web site at Learn@UW or available from the web. However, I highly recommend that you include one or more of the following texts in your library:

General Advanced Statistics Texts

Angrist, J. D. & Pischke, J.S. 2009. *Mostly Harmless Econometrics*. Princeton, NJ: Princeton University Press.

Kennedy, P. 2008. *A Guide to Econometrics, Sixth Ed.* Malden, MA: Blackwell Publishing.

Kleinbaum, Kupper, Nizam & Muller. 2008. *Applied Regression Analysis and Other Multivariate Methods*. Thompson. 4th Edition.

McLendon, McKee. 2002. *Multiple Regression and Causal Analysis*. Long Grove, IL: Waveland Press.

Murray, M.P. 2006. *Econometrics: A Modern Introduction*. Boston: Pearson Education Inc.

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Stock, James H. & Watson, Mark W. 2011. *Introduction to Econometrics*. Boston, MA: Prentice Hall.

Studenmund, AH. 2011. *Using Econometrics: A Practical Guide*. Boston: Addison-Wesley. 6th Edition.

Wooldridge, J.M. 2011. *Introductory Econometrics: A Modern Approach*. (5th edition). Cincinnati, OH: South-Western College Publishing.

Writing about Quantitative Analysis

Miller, Jane E., 2005. *The Chicago Guide to Writing about Multivariate Analysis*. The Chicago Guides to Writing, Editing, and Publishing. University of Chicago Press.

Study guide: <http://www.press.uchicago.edu/books/miller/multivariate/index.html>

See Jane Miller's website for pdfs, videos and other material: <http://policy.rutgers.edu/faculty/miller/>

Becker, H. S. (2008). *Writing for social scientists: How to start and finish your thesis, book, or article*. University of Chicago Press.

General Stata Texts

Hamilton, L. C. 2009. *Statistics with Stata (Updated for Version 10)*. Brooks/Cole.

Long, S.J. 2009. *The Workflow of Data Analysis Using Stata*. College Station, TX: Stata Press.

Kohler, U. & Kreuter, F. 2009. *Data Analysis Using Stata (2nd Edition)*. College Station, TX: Stata Press.

Mitchell, M. 2010. *Data Management Using Stata: A Practical Handbook*. College Station, TX: Stata Press.

IV. Assignments and evaluation

Grades: 45% final paper and preliminary products; 10% discussion for peer paper; 45% homework and class participation. This is a graduate seminar; the expectation is that the seminar will provide a collaborative learning environment. Academic honesty is a central requirement for graduate study. Please review the School of Social Work guidelines on plagiarism – (p. 32-33 of <http://socwork.wisc.edu/files/PhDProgramGuidelines.pdf>). If a student intentionally misrepresents another's work as their own, the student will receive no credit for the assignment and a final semester grade no higher than a C.

Final paper and preliminary products: The final product will be a 20-30 page research paper that uses quantitative analysis. The paper should include a discussion of the significance of the research question, a literature review, a description of data and methods, specific hypotheses that are tested, quantitative results, limitations, and conclusions and next steps. The paper is due at **9 a.m., May 12**.

Several preliminary products will be required, including:

- a one-page proposal abstract: this should include ~2 sentences on why your topic is important, a statement of the research question, including the dependent variable and key independent variables and 1-2 sentences on the data you're planning to use, the sample, and the main statistical method (about 1 page in total) **due January 22**.

- a working proposal, including a discussion of the significance of the research question, a very brief literature review, data, methods, and limitations (maximum 5 single-spaced pages without references), **due February 12**.

- a memo that describes whether (and how) the final paper will differ from the proposal abstract, due **March 26**. Also on March 26 you have the option of turning in a draft of the introduction and literature review and receiving feedback on these sections.

- A draft final paper (due Monday at 5 pm the week before the presentation)

Discussant for peer paper: the last weeks of the course will be a mock conference, with students presenting papers and acting as discussants. Information on the discussant role, as well as more detail on all preliminary products, will be distributed.

Homework: There will be three homework assignments. These will be focused on each student's project; for example, one assignment will be to provide a cross-tabulation between the student's dependent variable and their key independent variable, and a very short discussion of what they learned.

Class Participation: Because much of the learning occurs during the class time, students are required to attend every class or to receive approval in advance for not attending. In addition, students are expected to have carefully and critically read all assigned readings, and to be prepared to discuss them.

V. Expectations of Students and Instructor

Students are expected to:

- attend each class session (or receive approval in advance for non-attendance), actively participate in the in-class discussions. (If you cannot attend class, you are not only responsible for gaining permission in advance, but also for knowing what occurred and getting any handouts).
- carefully and critically read all required readings before coming to class
- complete all assignments by the due dates and times (thus you are expected to plan your life so that you can make the required deadlines in the course)
- inform the instructor during the first week of the semester of any special accommodations needed for meeting class expectations (as approved by the McBurney Center)
- be respectful of other class members--a diversity of views and opinions may be articulated during discussions.

The instructor is expected to:

- assure that course objectives are being met
- be available to students by appointment and to answer questions through email during business hours
- give reasonable guidance on preparing for assignments
- be open to discussing concerns about the course
- evaluate and return assignments in a timely manner.

VI. Course content, with readings (tentative)

Class 1, January 18: Overview of course

One-page proposal abstract due Sunday, January 22, 5pm.

Class 2, January 25: Mock review panel 1: of the abstracts submitted, which ones should we invite to submit a more detailed proposal?

Read all one-page proposals

Readings on what makes a good proposal (see Learn@UW)

Class 3, February 1: Descriptive analyses and measurement issues

Carlson, Marcia J. and Berger, Lawrence M. (in press). "What Kids Get from Parents: Packages of Parental Involvement across Complex Family Forms." *Social Service Review*.

Kornrich, S. and Furstenberg, F. (2013). "Investing in Children: Changes in Parental Spending on Children, 1972-2007." *Demography*, 50, 1-23.

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Best, Joel. 2001. "Telling the Truth about Damned Lies and Statistics." *The Chronicle of Higher Education* May 4, 2001.

Lehrer, Jonah. "The Truth Wears Off: The Annals of Science." *The New Yorker*, December 13, 2010.

Stock & Watson, Chapter 1: Economic Questions and Data (pages 3-14).

Class 4, February 8: From descriptive statistics to basic regression

J.E. Miller and Y.V. Rodgers, 2008. "Economic Importance and Statistical Significance: Guidelines for Communicating Empirical Research." *Feminist Economics*. 14(2):117-149

Studenmund, Chapter 11: Running Your Own Regression Project, Practical Advice for Your Project (p. 383 – 393). **AND** A Regression User's Checklist and Guide, (p. 395 – 400).

J.E. Miller, 2008. "The Goldilocks Principle: Avoiding Pitfalls in Interpretation of Regression Coefficients." Social Science Research Network (SSRN) eLibrary. Available online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1153573.

IF NECESSARY:

Studenmund, Chapter 1: Introduction and Overview of Regression Analysis (p. 1 – 24).

Studenmund, Chapter 4: The Classical Model (p. 93 – 110).

Working proposal due Sunday, February 12, 5pm

Class 5, February 15: Mock review panel 2: evaluating all working proposals

Read all working proposals

Homework 1 (on variable construction) due Sunday, February 19, 5 pm

Class 6, February 22: Guest lecture on Work Flow and Typical difficulties in conducting empirical research (based on homework 1)

Class 7, March 1: Typical difficulties in conducting empirical research (based on homework 1)

To be announced

Homework 2 (on relationships between independent and dependent variables) due Sunday, March 5.

CLASS 8-11 We will work together select a series of analytic techniques or issues to highlight during these sessions.

Class 8, March 8: Technique I

To be announced

Class 9, March 15: Technique II

***Memo describing changes between proposal and paper due Sunday, March 26
Optional assignment (draft of introduction and lit review of final paper)***

Spring Break, March 22

Class 10, March 29: Technique III
To be announced

Homework 3 (results draft) Sunday, April 5, 5pm

Class 11, April 5: Technique IV and Discussion of Results

Class 12, April 12: Technique 5

CLASS 13-14 FEATURE STUDENT PRESENTATIONS IN A MOCK CONFERENCE. Papers are due by Friday at noon the week before the presentation. Each student is required to read all the papers that will be presented every week. Each student will be assigned to be a formal discussant of one or more papers.

Class 13, April 19: Mock conference II
3 papers

Class 14, April 26: Mock conference III
3 Papers

Class 15, May 3 Any remaining presentations or techniques

FINAL PAPER DUE MAY 12