

Econ 710
Economic Statistics and Econometrics II
Spring 2017

Course Time: Tuesdays and Thursdays, 1:00 – 2:15. Social Science 6104

Webpage: <http://www.ssc.wisc.edu/~bhansen/710/>

Office Hours: Thursdays 10:00- 12:00, or by appointment

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TA: Yoshiyasu Rai yrai@wisc.edu

This course is designed for first-year Economics Ph.D. students. The basic methods of modern econometric methods and theory are covered. The intention is that the material will provide a foundation for applied research in economics

The course prerequisites are Econ 703 and 709, or equivalents.
Familiarity with probability, statistics, and matrix algebra is assumed.

Class assignments will be set by email approximately once each week. These assignments will include both problem solving and computer tasks. The computer exercises will involve programming in Matlab programming language. The assignments will be graded by the teaching assistant, and will be reviewed in the discussion sections. Questions regarding computers and software should be directed to the TA

There will be two exams, a mid-term and a final. The grading for the course will be as follows: Assignments: 20%. Midterm: 30%. Final: 50%.

Grades will be posted to the Learn@UW Canvas site.

The midterm exam will be outside of class on Monday March 13, time to be determined.
The Final exam will be Tuesday, May 9 from 9am to noon.
The exams are open-book and open-note.

A draft textbook is posted on the webpage. This is a manuscript in progress, and is periodically rewritten.

To supplement the lecture notes, I recommended *Econometrics* by Fumio Hayashi, *Econometric Analysis* by William H. Greene, and *Econometric Analysis of Cross Section and Panel Data* by Jeffrey Wooldridge. Wooldridge and Hayashi are closer in style and substance to the course. Greene is more encyclopedic and is preferred by some students.

A well-written supplementary monograph is *Mostly Harmless Econometrics* by Joshua Angrish and Jorn-Steffen Pischke

On the next page, I have listed some major textbooks and resources in econometrics. They may be useful as references for further study or for applied projects.

Alternative textbooks:

Arthur S. Goldberger, *A Course in Econometrics* (1991)
Paul A. Ruud, *An Introduction to Classical Econometric Theory* (2000)
James Davidson, *Econometric Theory* (2000)
Russell Davidson and James G. MacKinnon, *Estimation and Inference in Econometrics* (1993)

Advanced Econometrics:

Handbook of Econometrics, Volumes I-V.
Takeshi Amemiya, *Advanced Econometrics* (1985).
James Davidson, *Stochastic Limit Theory* (1994).

The Bootstrap:

Peter Hall, *The Bootstrap and Edgeworth Expansion* (1992).
Bradley Efron and Robert J. Tibshirani, *An Introduction to the Bootstrap* (1993).
A.C. Davison and D.V. Hinkley, *Bootstrap Methods and their Application* (1997).

Panel Data

Badi Baltagi, *Econometric Analysis of Panel Data*
Laszlo Matyas and Patrick Sevestre, eds., *The Econometrics of Panel Data* (1996).
Jeffrey Wooldridge, *Econometric Analysis of Cross Section and Panel Data* (2002)
Cheng Hsiao, *Analysis of Panel Data*, 2nd edition (2003).
Manuel Arellano *Panel Data Econometrics* (2003)

Time Series

Clive W.J. Granger and Timo Terasvirta, *Modelling Nonlinear Economic Relationships* (1993).
James D. Hamilton, *Time Series Analysis* (1994).
Soren Johansen, *Likelihood-Based Inference in Cointegrated Vector Autoregressive Models* (1995).
Philip Hans Franses and Dick van Dijk, *Non-Linear Time Series Models in Empirical Finance* (2000).

NonParametrics

Wolfgang Hardle, *Applied Nonparametric Regression* (1990).
Jianiang Fan and Irene Gijbels *Local Polynomial Modelling and Its Applications* (1996)
Adrian Pagan and Aman Ullah, *Nonparametric Econometrics* (1999).
Jianqing Fan and Qiwei Yao *Nonlinear Time Series* (2003)
Adonis Yatchew *Semiparametric Regression for the Applied Econometrician* (2003)
Qi Li and Jeffrey Racine *Nonparametric Econometrics* (2007)

Limited Dependent Variables

G.S. Maddala, *Limited-Dependent and Qualitative Variables in Econometrics* (1983).
Christian Gourieroux, *Econometrics of Qualitative Dependent Variables* (1991).
Colin Cameron and Pravin K. Trivedi, *Regression Analysis of Count Data* (1998).
Colin Cameron and Pravin K. Trivedi, *Microeconometrics* (2005).