University of Illinois
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Department of Economics
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Economics 478

# Topics in Semiparametric Econometrics

This course is a research seminar in semiparametric methods in econometrics. The main objective of the course from a student viewpoint should be to write a research paper of potentially publishable quality, either as an exploratory venture directed toward finding a thesis topic, or as an opportunity to explore a new area in some depth just for the fun of it.

The course will be organized as an informal seminar. There will be no text *per se*, but for the first few weeks we will read and critique the current draft of my long-delayed monograph on quantile regression. There will be no exams only a required term paper, and there will be periodic student presentations of course material. The topics covered in the course can be tailored somewhat to student demand. There are a few topics in which I have a current research interest, and for which I think there might be some scope for constructive interaction in a course of this type. I will try to encourage toward these topics in an effort to increase effective collaboration among students in the course. Not surprisingly, many of these topics have some connection to quantile regression, although in some cases this connection is rather speculative.

In the first class I will try to describe and motivate the topics I have identified and provide some basic bibliography. One of my objectives will be to get some feedback on the book manuscript that I'm currently revising. So the readings for the first several weeks will be from that and I hope that the seminar will provide a forum for serious critique.

I would like to spend at least two weeks on each of the following topics:

(1) **Quantile Regression for Linear and Nonlinear Time-series Models**
(2) **Penalty Methods for Longitudinal/Panel Data**
(3) **Quantile Regression Methods for Structural Models**
(4) **Penalty Methods for Nonparametric Function Estimation**