Welcome to Economics 8603! This is a course intended for Ph.D. students interested in conducting research in empirical industrial organization. In the course, we will discuss estimation and applications of several broad classes of models:

1. Models of product differentiation.
2. Static games of Imperfect Competition.
3. Dynamic games of Imperfect competition.
4. Auctions.

Special attention will be paid to the most recent research in these areas so that students are exposed to papers on the research frontier. The main goal of this course is to provide students with a set of tools so that they can begin to write their own original research in empirical IO.

Requirements.
This class will be rather demanding. However, I hope you will find that the potential benefits exceed the cost.

1. The first, and most important requirement, is that you read the papers before attending class. The papers we will read will be challenging. You will internalize the concepts and models much more clearly if you spend time struggling with the material before class begins.
2. There will be 3 or 4 intensive exercises where students will implement the estimators discussed in class. The students should familiarize themselves with an appropriate software package (e.g. Matlab, Fortran, C, Gauss…) in order to program these exercises.

Grading.
Students will be graded on the problem sets listed above. Also, students will be graded based on class participation. There will be no in class exams. Students are encouraged to work together by discussing the papers and in implementing the estimators.
Reading List

1. Differentiated Products


Davis, P. Spatial Competition in Retail Markets: Movie Theatres, forthcoming, RAND Journal of Economics.


III. Static Games.


Bayer, P. and Timmins, C. A Note on the Equilibrium Properties of Locational Sorting Models,” mimeo, Yale University.

Berry, S., “Estimation of a Model of Entry in the Airline Industry,” *Econometrica*, 60 (July 1992), 889-918


IV. Dynamic Games.


Rust, J. “Structural Estimation of Markov Decision Processes”, Handbook of Econometrics, Volume IV.

Ryan, S. (2005), ”The Costs of Environmental Regulation in a Concentrated Industry,” mimeo, MIT.


V. Auctions


