Topics in Microeconomic Theory and Mathematical Economics

**Course Description:** This course will cover a variety of topics in microeconomic theory and mathematical economics. The focus will be both on background and developing the underlying theoretical results as well as current research. This syllabus contains brief outline of the topics I plan to cover this year. As we go along and the course develops, I will distribute updated versions of the reading list, and in most cases make copies of important readings available.

**Course Requirements:** This course is designed to cover a mix of basic tools and current research, with the goals of both giving students a solid foundation in several important topics in microeconomic theory and mathematical economics, as well as promoting their independent research. There will be problem sets approximately weekly, and a take home final. I will also require students to write a paper prospectus, which will be due the final day of class. Details about this assignment and the final will be discussed in class.

**Prerequisites:** Math 104 or equivalent, Econ 204 and Econ 201A-B. I will also give additional sources for much of this material as we go along.

**Contact Information:** Office hours are Thursdays 2-4 or by appointment. My office is 511 Evans, my phone number is 643-7283, email is cshannon@econ.berkeley.edu.

**Broad Course Outline:**

1. Choice Under Uncertainty
   - basic choice theory, von Neumann-Morgenstern, Anscombe-Aumann, and Savage theories of choice under uncertainty, alternatives to expected utility theory, ambiguity and multiple priors, applications to asset pricing and markets
   - some readings:
     - Kreps, *Notes on the Theory of Choice*
     - Bewley, series of Cowles Foundation working papers on Knightian Uncertainty
2. Dynamic Choice Theory

dynamic choice theory, recursive utility, temporal resolution of uncertainty


3. Unforeseen contingencies, flexibility, and temptation

preference for flexibility, unforeseen contingencies, self-control and temptation


4. Stochastic Revealed Preference Theory


5. Asymmetric Information and Markets

competitive markets under uncertainty, asymmetric information in financial markets, equilibrium models of default and bankruptcy
some readings:


Dubey and Geanakoplos, “Competitive Pooling: Rothschild-Stiglitz Reconsidered,” QJE.
