Syllabus: Econ 681 – Microeconomic Theory
Steven A. Matthews, University of Pennsylvania
August 31, 2016

Description. This is a PhD-level course on microeconomic theory. The topics consist of decision, consumer, producer, and market equilibrium theory (see below). The prerequisite is knowledge of multivariable calculus, basic analysis and probability, and optimization.

Class Meetings. MW, 9-10:30 am in 309 McNeil

Professor. Steven Matthews <stevenma@econ.upenn.edu>
   Office hours: Thursdays, 3:30-5 pm in 521 McNeil

Teaching Assistant. Ryan Fackler <fackler@sas.upenn.edu>
   Office Hours: Mondays, 6-8 pm, in McNeil, 3rd floor Graduate Lounge.

Emailing. Please put ECON681 as part of the subject line when you email us

Homework. Problem sets, due roughly every two weeks, graded on a scale 0-3. No late homework will be graded. You will gain the most from spending a lot of time doing the homeworks, before reading solutions that may be floating about. Study groups are good, but write up your solutions individually. Solutions to each problem set and exam will be posted ex post.

Exams. Two midterms and one cumulative final. All are closed book, notes, and devices. Midterm 2 covers the material discussed in class after Midterm 1.

Grading. 20% each midterm, 45% final, 15% problem sets. If you miss one midterm for an excused absence,[1] your grade will be calculated as 26% on the other midterm, 59% on the final, 15% problem sets.

Course Materials. Posted on Canvas: http://canvas.upenn.edu

Required Text: Mas-Colell, Whinston and Green, *Microeconomic Theory*

Supplementary Texts:

- Jehle and Reny, *Advanced Microeconomic Theory,* 3rd ed.
- Miller, *Notes on Microeconomic Theory*: https://business.illinois.edu/nmiller/notes.html#download
- Levin, Milgrom and Rangel, Micro Notes (Ec 202): http://www.stanford.edu/~jdlevin/teaching.html especially
- Rubinstein, *Lecture Notes in Microeconomic Theory*, http://arielrubinstein.tau.ac.il/books.html
- Varian, *Intermediate Microeconomics: A Modern Approach*, 3rd ed.

Important Dates.

- No Class Dates: Mon 9/5, Mon 10/3, Wed 10/12, and Wed 11/23
- Midterms 1 and 2: Wed 9/28 and Wed 11/2 (in class)
- Cumulative Final Exam: Tues 12/20, 9-11 am, location TBA

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[1] The document, Economics Departmental Course Policies, defines an excused absence and other policies.

Tentative Topics Outline

The following is a tentative outline of topics, with the most tentative being below the line of asterisks. Adjustments will be made as we go.

1. Decision Theory Foundations (MWG 1)

   Preferences. Rational preferences. Utility representation

   Behavior: Feasible sets and choice rules

   Rational choice: weak axiom, rationalizability theorem

2. Consumer Choice and Preferences (MWG 2.A-E, 3.A-C)

   Commodities (goods, dates, states). Consumption and budget sets

   Walrasian demand correspondence. Homogeneity and Walras' law.

   Comparative statics

   Preference assumptions

   Utility representation theorems

3. Demand Theory (MWG 3.D-H)

   Utility maximization: Walrasian demand and indirect utility functions

   Cost minimization: Hicksian demand and expenditure functions

   Envelope theorem. Consequences: Shephard's lemma, Roy's identity

   Slutsky decomposition

   Briefly: Integrability

4. Further Topics in Demand Theory (MWG 3.I-J, MWG 4)

   Welfare evaluation - consumer surplus measures

   Revealed preference

5. Theory of the Firm (MWG 5)

   Production sets and technology

   Profit maximization and cost minimization

   Comparative statics. Le Chatelier's principle

6. Choice under Uncertainty (MWG 6.A-D,F)

   Expected utility theorem (vNM)

   Comparing and measuring risk aversion (Pratt's Theorem)

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7. Partial Competitive Equilibrium (TBA, selections from MWG 10-12)

8. General Competitive Equilibrium (TBA, selections from MWG 15-20)