

## Syllabus

### Econ 701A – Microeconomic Theory I, Part 1

Steven A. Matthews, University of Pennsylvania

Version: August 27, 2021

**Description.** This is the first half of Econ 701. It focuses on decision, consumer and producer theory. Its prerequisite is Econ 897 (Math Camp). Topics are listed below.

**Lectures.** TR, 10:15-11:45 am in 101 PCPSE.

**Recitations.** TBA

**Professor.** Steven Matthews <stevenma@econ.upenn.edu>

Office hours: 3-4 pm Thursdays, and by appointment

**Teaching Assistant.** Byunghoon Kim <bhkim@sas.upenn.edu>

Office hours: TBA, and by appointment

**Emailing.** Please include “ECON 701” in the subject line of emails to us.

**Homework.** Four problem sets, graded coarsely 0-3. They will be posted on Thursdays or Fridays, and are due by 3 pm on Fridays, through Canvas (<http://canvas.upenn.edu>). Late homework will not be graded. You will gain the most from seriously attempting the problems, without reading solutions that may be floating about. Study groups are good, but write up solutions individually. Official solutions will be posted ex post.

**Exams.** One 30 min quiz, one 75 min cumulative final exam. Closed book, notes, and devices.

**Grading.** 20% quiz, 70% midterm, 10% homework

**Course Materials.** Posted on Canvas

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

#### Supplementary Optional Texts

- Jehle and Reny, *Advanced Microeconomic Theory*, 3<sup>rd</sup> ed.
- Varian, *Microeconomic Analysis*, 3<sup>rd</sup> ed.
- Miller, *Notes on Microeconomic Theory*: <https://business.illinois.edu/nmiller/notes.html#download>
- Rubinstein, *Lecture Notes in Microeconomic Theory*, <http://arielrubinstein.tau.ac.il/books.html>

#### Dates

- 8/31: First class
- 9/7 and 9/16: Classes cancelled. (Byunghoon will add some lecture material in the corresponding recitations.)
- 9/23: Quiz (in class)
- 10/14: No class (Fall Break)
- 9/10, 9/17, 10/1, and 10/8: Problem set due dates
- 10/19: Final exam (in class)

## Topics

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)
  - Briefly: Subjective probability (Savage)