This class is the first part of a graduate sequence covering the foundations of modern microeconomic theory. We will cover consumer theory, producer theory, and choice under uncertainty. The prerequisite is Econ 897 (Math Camp).

Instructors.

Professor: Aislinn Bohren  
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Teaching Assistant: Byunghoon Kim  
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Dates. 701A runs from 9/1 until 10/23.

Class Schedule & Material. Weekly live sessions on Zoom include:

- **Lecture:** Tues/Thurs 10:30am-12pm
  - These will be structured as a traditional lecture.
  - Due to the extenuating circumstances, I understand that students may occasionally be unable to attend the live session. Therefore, they will be recorded. However, attendance is very strongly recommended, as active participation is a crucial part of the learning process.
  - No lecture 9/24 or 10/22 due to course midterms (see details below).

- **Recitations:** Friday 9-10am, Q&A 10-11am
  - Live session in which the TA solves problems and answers questions.
  - Will focus on material related to the weekly lectures.
  - Session will be recorded for students who are unable to attend.
  - No sessions 9/25 or 10/23 due to course midterms (see details below).

- **Office Hours:** sessions during which we answer individual questions.
  - Monday 9-10am and 3-4pm (Byunghoon)
  - Thursday 8-9am and 12-12:30pm (Professor Bohren)

Weekly material to accompany lecture, including textbook reading and problem sets, will be posted on Canvas.

Piazza. We will use piazza to facilitate discussions with your classmates. Post any questions about course content and problem sets or thoughts on the material here:

piazza.com/upenn/fall2020/econ701a
Assignments.

- **Problem Sets:** There will be a *weekly* problem set to accompany the lecture material and reading. It will be posted on Tuesday after lecture and is due the following Tuesday at 10am. The problem sets will be graded coarsely (P+, P, P-). You will gain the most from spending a lot of time doing the problems without reading solutions that may be floating around. Study groups are good, but write up your solutions individually. Solutions to each problem set will be posted ex post.
  
  - **Due:** 10am Tuesday 9/8, 9/15, 9/22, 10/6, 10/13, 10/20 (six total; no problem sets the weeks of exams)

- **Exams:** There will be two take-home midterms. Both are open book, open notes, anything but the internet. You will have 48 hours to complete each exam.
  
  - **Midterm 1:** posted Wed 9/23 3pm, due Friday 9/25 3pm (no class 9/24)
  - **Midterm 2:** posted Wed 10/21 3pm due Friday 10/23 3pm (no class 10/22)

*Submit all assignments on Canvas.*

Grade Breakdown.

- Problem sets: 20%
- Midterm 1: 40%
- Midterm 2: 40%

Textbook. The required textbook for the class is:


The supplementary texts listed below are not required. However, you might want to invest in them.


Course Policies & Support. If anything arises that impacts your ability to complete an assignment or participate in the course, please reach out to me. The course is designed to be flexible and we can work together to figure out a path forward. If you are feeling overwhelmed or having difficulty coping at any point, Penn has resources available to help you. CAPS is providing virtual counseling ([https://caps.wellness.upenn.edu/](https://caps.wellness.upenn.edu/)).
Outline of Topics.

1. Decision Theory Foundations (MWG 1)
   (a) Preferences. Rational preferences. Utility representation.
   (b) Behavior: feasible sets and choice rules.
   (c) Rational choice: weak axiom, rationalizability theorem

   (a) Commodities (goods, dates, states). Consumption and budget sets.
   (b) Walrasian demand correspondence. Homogeneity and Walras’ law.
   (c) Comparative statics.
   (d) Preference assumptions.
   (e) Utility representation theorems.

3. Demand Theory (MWG 3.D-H)
   (a) Utility maximization: Walrasian demand and indirect utility functions.
   (b) Cost minimization: Hicksian demand and expenditure functions.
   (c) Envelope theorem. Consequences: Shephard’s lemma, Roy’s identity.
   (d) Slutsky decomposition.
   (e) Briefly: Integrability.

4. Further Topics in Demand Theory (MWG 3.I-J, MWG 4)
   (a) Welfare evaluation: consumer surplus measures.
   (b) Revealed preference.

5. Theory of the Firm (MWG 5)
   (a) Production sets and technology.
   (b) Profit maximization and cost minimization.
   (c) Comparative statics. Le Chatelier’s principle.

   (a) Expected utility theorem (vNM)
   (b) Comparing and measuring risk aversion (Pratt’s Theorem)
   (c) Briefly: subjective probability theorem (Savage)