

Fall 2024
Economics 7100: Microeconomic Theory
Part 1

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.

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Teaching Assistant: Matthew Murphy
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Office Hours: PCPSE 500

Dates. This part of the course runs from 8/27 until 10/15. Professor Postlewaite teaches the second half of the course.

Class Schedule & Material.

- **Lecture:** Tues/Thurs 10:15-11:45am, PCPSE 100
 - No lecture 9/10; make-up lecture 1:30-3pm on 9/11 (tentative).
 - No lecture 10/3 (Fall break).
 - Zoom is available by request if you are unable to attend class due to illness.
- **Recitations:** Friday 11:00am-12:15pm, Location TBD
 - Session in which the TA solves problems and answers questions.
 - Will focus on material related to the weekly lectures.
 - No session 10/4 (Fall break).
- **Office Hours:** sessions during which we answer individual questions.
 - Matt: Monday 3:30-5:30pm, PCPSE 500
 - Prof. Bohren: Tuesday 1-2pm, PCPSE 501

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

Assignments.

- **Problem Sets:** There will be a *weekly* problem set to accompany the lecture material and reading. It is due the following Tuesday in class. 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 after the due date.
 - **Due Tuesdays:** 9/3, 9/10, 9/24, 10/1, 10/8 (five total; no problem sets due the weeks of exams).
 - **Submit on Canvas.**
- **Exams:** There will be two in-class midterms. They are closed notes and closed book. You can use a simple calculator.
 - **Midterm 1:** Tuesday, September 17
 - **Midterm 2:** Tuesday, October 15

Grade Breakdown.

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

Textbook. The required textbook for the class is:

A. Mas-Colell, M. Whinston and J. Green, *Microeconomic Theory*, New York: Oxford, 1995.

The supplementary texts listed below are not required but you may find them helpful.

H. Varian, *Microeconomic Analysis*, W. W. Norton & Company, 1992.

D. Kreps, *A Course in Microeconomic Theory*, Princeton University Press, 1990.

Course Policies & Support. If anything arises that impacts your ability to complete an assignment or participate in the course, please reach out to me 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/>).

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
2. Consumer Choice and Preferences (MWG 2.A-E, 3.A-C)
 - (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.
6. Choice and Uncertainty (MWG 6.A-D,F)
 - (a) Expected utility theorem (vNM)
 - (b) Comparing and measuring risk aversion (Pratt's Theorem)
 - (c) Briefly: subjective probability theorem (Savage)