



Department of Economics

University of Southern California

ECON 303 26086R INTERMEDIATE MICROECONOMIC THEORY

UNITS: 4 Spring 2024

LOCATION / TIME: Monday/Wednesday 2-3.20pm at THH 116

INSTRUCTOR: Yilmaz Kocer kocer@usc.edu, office: KAP 118.

COURSE DESCRIPTION: This course provides a rigorous foundation for microeconomic theory, anchoring what you have learned in the microeconomics principles class on a sound technical mathematical basis. It will give you analytical tools that will be helpful in most upper-level classes in Economics, Finance and in general any course that is based on optimization. We will first study the behavior of individual consumers and firms, how they decide under conditions of scarcity and uncertainty. We will analyze how firms minimize costs and maximize profits and compete against others in a perfectly competitive market. We will also look at situations in which the firm is a monopolist or competes with a limited number of rivals. Some of the key concepts we will introduce include economic incentives, marginal analysis, opportunity cost, market efficiency -whether a market is functioning well- and strategic behavior (how to predict and respond to your rivals' decisions). If we have time, we will also study a curated subset of market failures; adverse selection, public goods, externalities where markets may fail to deliver efficient outcomes.

PRE-REQUISITES: Econ 203 and some calculus; MATH 118 or MATH 125.

Problem solving and quantitative reasoning are key components of the course. Together with ordinary arithmetic and pre-calculus, you will need a small bit of calculus to do the work in this course. Namely, you need to be able to;

- 1) Solve one variable (x) linear and quadratic equations, plot the corresponding line or parabola as a graph, derive a line's slope, intercepts, find the peak/dip of a quadratic, its roots, and solve inequalities involving a quadratic function of x .
- 2) Solve two linear equations in two variables (x, y).
- 3) Calculate the derivative of polynomials of one variable (like the derivative of " x^3-2x^2+3x-5 ") and logarithms (as in the derivative of $\ln(x)$ being $1/x$), and employ the product rule and chain rule if there are compound terms (as in the derivative of $\ln(x^2+3)$ being equal to $2x/(x^2+3)$)

I will go over all we need (the items above and any extras) in a brief math review.

LEARNING OBJECTIVES: At the successful completion of this course, students will be able to:

- Solve the consumer's utility maximization problem to derive demand.
- Solve the firm's cost minimization problem to derive input demands and calculate the cost function.
- Use the cost function to solve the perfectly competitive firm's profit maximization problem and derive supply.
- Evaluate the impacts of changes in exogenous variables on the optimal behavior of consumers and firms and the resulting impacts on utility and profits.
- Assess and quantify the impacts of public policies on competitive market equilibrium.
- Solve the monopolist's profit maximization problem and calculate the optimal price and quantity.

-- Solve for the equilibrium quantity and price in an oligopolistic market, where firms are competing in prices (Bertrand) or in quantity (Cournot)

--Evaluate the implications of departures from perfect competition, such as monopolies or imperfect competition.

Class Participation

Even though it is not directly part of your grade, your attendance and active presence in class is essential. Stay engaged, ask questions if anything is unclear, suggest answers to questions I pose, read the textbook and practice with the end of chapter problems (particularly the ones I recommend on blackboard announcements). The course material is dense, loaded with many ideas, concepts, problems and exercises, so a casual interest and less-than-full commitment will not suffice to be successful in this course. Also, many hints about the assignments, exams will be given during the classes so attending classes is very important.

TOPICS AND TENTATIVE OUTLINE

Week	Dates	Topic	Besanko
1	Jan 8 , 10	Introduction, Demand and Supply Analysis - Overview PS1	Ch.1, Ch.2
2	Jan 17	Overview, Math Review	Ch.2, A1-A7
3	Jan 22 , 24	Math Review, Consumer preferences PS2	Ch.3
4	Jan 29 , 31	Consumer preferences, Consumer Choice	Ch.3
5	Feb 5 , 7	Consumer Choice, Consumer demand PS3	Ch.4, Ch.5
6	Feb 12 , 14	Consumer demand, PS4	Ch.4, Ch.5
7	Feb 21	Consumer demand	Ch.5
8	Feb 26 , 28	Firm's cost curves Midterm Exam	
9	March 4 , 6	Firm's cost curves PS5	parts of Ch 6,7,8
10	March 18 ,	Perfect competition, competitive market applications	Ch.9, Ch.10
11	March 25 , 27	Competitive markets, monopoly PS6	Ch.10, Ch.11
12	April 1 , 3	Monopoly, oligopoly PS7	Ch.11, Ch.13
13	April 8 , 10	Market structure and competition, oligopoly	Ch.13
14	April 15 , 17	Game Theory and strategic behavior, PS8	Ch.13, Ch.14
15	April 22 , 24	Risk, Expected Utility, Insurance PS9	Ch.15
FINAL EXAM in class, May 6th Monday 2-4pm			

REQUIRED TEXTBOOK: Besanko, David and Ronald R. Braeutigam, Microeconomics, 5th Edition, Wiley

Inc. You can buy a used 5th edition (around \$40-\$60 on Amazon), or buy a 6th edition (minor changes in 3-4 pages over the whole book in the 6th edition; I will use the 5th ed; so you can buy the cheaper 5th edition too). I checked each and every end-of-chapter problem in the 5th and 6th editions manually and for all the problems we'll be

dealing with, or you'll possibly be practicing with, 5th ed solution manual is identical in numbering and content with the 6th edition; so you can go ahead and buy the 5th ed textbook. I strongly suggest you buy a print copy, as it is an excellent book you can proudly keep in your library for life, or rent the e-text relatively cheaply from <https://www.vitalsource.com/>

OFFICE HOURS: I will be available on [personal zoom room](#) **Mondays 5.30-7pm**. I will announce (on blackboard or via email) many extra office hours as demand arises throughout the semester. You can also see me at the end of the classes if you have a brief question.

TEACHING ASSISTANT: Your TA will hold regular office hours for content and grading related questions. Please email all your grading related questions directly to your TA, and I will only hear grading related questions from your TA first.

Communication: All course materials; instructions, announcements, discussion/feedback, exams, problem sets, sample exams, in class exercise problems, answer keys, your grades etc. will be posted on *Blackboard* (hereafter "bb"). I already put under the *contents* tab the **solution manual** for the end of chapter problems for your textbook, all in a single pdf file. Familiarize yourself with the syllabus, announcements, contents and assignments tabs. Please use "ECON 303 12pm section" in the subject line in your emails for me to respond faster.

GRADING CRITERIA:

Grading component	%weight
Midterm Exam 1 February 28th Wednesday	25%
8-9 Problem Sets due dates TBA	37%
FINAL EXAM May 6th Monday 2-4pm	38%

GRADING

All graded elements in this course will be in the format of technical problems, similar in structure to the end of chapter problems in your textbook, or in class exercises. No multiple-choice questions or questions about definitions/terms throughout the course. Of course, I may ask you to comment and interpret your answers to the problems from an economic perspective.

The Midterm Exam and the Final Exam

The dates are already set as above and they will be in delivered in person in class. No books/notes/cell phones are allowed but calculators are okay, even though I don't think you'll need it. The final exam is cumulative ; it covers all material studied throughout the semester; however it will predominantly (around %70) test the second half of the course (material after the midterm exam), to give equal grading coverage to all topics. The final exam is around 40-50% longer than the midterm exam both in size and in time duration.

Problem SETS 8-9 problem sets will be assigned throughout the semester, roughly one per 1-2 chapters of textbook content (one for every 1-2 weeks) and your worst 3 will be dropped. I will announce the due dates for the problem sets both in class and on *Blackboard* and you will at least have 3-4 days to complete it. You may work together on problem sets and form study groups; however, you must each write down your own answers and submit them

individually; and be prepared to present them during class if called upon. They will be posted on bb under assignments tab, and you are required to submit your work back on bb as a single legible pdf file; no hand delivery of problem sets to me or your TA in person.

Final Letter-grade calculation:

Your **letter grade** depends on your *cumulative weighted average* grade **x** according to the following table:

x	≥ 90	≥ 85	≥ 80	≥ 75	≥ 70	≥ 65	≥ 60	≥ 55	≥ 50	≥ 45	≥ 40	< 40
grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

For example, if your **x = 73.45** you end up with (at least) a **B- grade**. I will also consider your weighted average's relative ranking within the class, only to improve your grades beyond the minimum guarantees described in the table.

IMPORTANT REMINDERS

- 1) Your cumulative weighted average will not be rounded up.
- 2) All exams will be delivered in class, no exam taking over zoom under any condition.
- 3) Students with OSAS accommodations should reach out to me as soon as they get the paperwork, as I cannot accommodate them without the paperwork or retroactively. They should also arrange, in advance, to take the exams in the OSAS office.
- 4) There will be no opportunities for extra credit in this course.
- 5) Please ask all grading related questions, emails directly to your TA first. You have two weeks after the announcement of grades for an exam or problem set to voice your concerns about any incorrect grading or missing grades; after that time, the grades for that exam/problem set are fixed and cannot be modified.
After meeting with your TA, if you still feel your work was graded incorrectly, please submit your work and a brief written explanation of your argument. I will regrade the entire answer, which means that your score may go down.
- 6) I will assume you have a commitment to academic integrity as per [the student handbook](#) or the [Office of Academic Integrity's website](#).
- 7) Please refrain from cell phone or laptop use during class, unless you are using your tablet/laptop solely for note taking purposes, which you should let me know at the beginning of the course.
- 8) As this course is highly technical/quantitative yet does not have dedicated discussion sessions to practice with problems; it is imperative for you to practice with as many problems as possible yourself.

MISSING an EXAM or a PROBLEM SET:

You will get a 0 score for a problem set, midterm exam or the final exam if you miss it, except in the case of USC registrar's definition of an emergency (See [USC Grading and Correction of Grades Handbook](#)) which includes documented medical and family emergencies characterized by severe and unforeseen hardship. According to USC guidelines, "no student is permitted to omit the [final examination]." Per the guidelines, in case of "a documented illness or other [event that meets the registrar's definition of emergency] occurring after the withdrawal deadline for the course," an incomplete grade (IN) will be assigned. Thus, if you miss the final exam for a reason that meets

the USC registrar's definition of emergency, you will be assigned an incomplete grade IN for the course.

If you miss a midterm exam for a valid reason as described above, its weight will be pushed towards the next midterm (if there is one) and the final exam. In this case, you should provide me with the proofs of the medical or family emergencies.

Having another midterm or final exam on the same day is not an excuse for not taking it. If you ever have a conflict with an exam date, see me as soon as you are aware of it (it must be at least two weeks in advance). There is no makeup exam for the midterm, the final exam, or the problem sets!

Missing a problem set is less problematic, for both you are having many days to complete it and "dropping your worst 3 problem sets" from your grade is expressly designed to buffer against unforeseen hardships and illnesses and family emergencies. If you miss more than 3 problem sets, I will ask you to document your excuse for all missed problem sets to show they meet the registrar's emergency criterion; otherwise, you will get 0 credits for all missed problem sets.

Still, I urge you to complete and submit each one of them, to start working on them as early as they are posted on bb. Late PS submissions will receive NO credit as I will post the answers on blackboard right at the deadline, so please submit whatever you have by the deadline to get any credit and please do not email me for an extension.

How to do well in this course: Listen to the lectures carefully and read the relevant sections from your book beforehand. Practice with problems; AS MANY AS YOU CAN! Go over the problem sets and textbook end of chapter problems (especially the subset that I will recommend on blackboard announcements) very carefully. Make sure to understand the reason behind every equation in the textbook and in the problem sets and exams. Work with your friends on the difficult problems. Learn from each other. Seek help from your TA and myself; we are here to help you. Check bb announcements for free econ tutoring services by the ECON department. Your textbook is an excellent textbook, dense and comprehensive with numerous end of chapter problems for practice.

Support Systems:

Counseling and Mental Health — (213) 740-9355 — 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

988 Suicide and Crisis Lifeline — 988 for both calls and text messages — 24/7 on call the 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. You can also call (800) 273-8255

Relationship and Sexual Violence Prevention Services (RSVP) — (213) 740-9355(WELL)— 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) — (213) 740-5086 Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment — (213) 740-5086 or (213) 821-8298

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

The Office of Student Accessibility Services (OSAS) — (213) 740-0776

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

USC Campus Support and Intervention — (213) 740-0411 Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity and Inclusion — (213) 740-2101

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency — UPC: (213) 740-4321, HSC: (323) 442-1000 — 24/7 on call

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety — UPC: (213) 740-6000, HSC: (323) 442-1200 — 24/7 on call

Non-emergency assistance or information.

Office of the Ombuds — (213) 821-9556 (UPC) / (323) 442-0382 (HSC)

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

Occupational Therapy Faculty Practice — (323) 442-2850 or otfp@med.usc.edu

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.