

ECON 7510
Advanced Price Theory I
Tulane University
Department of Economics
Fall 2023

Professor: Patrick Testa

Course hours: Tuesdays and Thursdays, 3:30–4:45pm

Course location: 307 Tilton Memorial Hall

Office: 201 Tilton Memorial Hall

Office hours: Thursdays, 12:30–1:30pm (or by appointment)

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Course description and objectives This is the first semester in a year-long sequence in advanced microeconomics. This course is intended for first-year graduate students in the Ph.D. program in economic analysis and policy. It is designed to provide students with a rigorous foundation in modern microeconomic theory and prepare them to do original research using economic models to understand economic and policy issues. After completing this course, students will be able to analyze and build simple microeconomic models and apply them to their own research.

The course will address broad questions and methodologies related to producer and consumer theory, partial equilibrium, competitive equilibrium, and Nash equilibrium. Students should at least have prior training in multivariate calculus and basic probability theory. It is also helpful to have a background in intermediate microeconomics, linear algebra, and mathematical proofs.

Texts Lectures will not follow any single text, although problem sets will borrow from both *Microeconomic Analysis* by Varian and *Microeconomic Theory* by Mas-Collel, Whinston, and Green (MWG). Other useful books include *Mathematics for Economists* by Simon and Blume and *Advanced Microeconomic Theory* by Jehle and Reny.

Attendance policy Students should attend class and take notes so that they are aware of assignments and deadlines as well as any scheduling changes that may arise. Students should communicate to me via email when they will be absent and rely on office hours (please come see me!) as well as help from peers to fill in any blanks. In the absence of verified illness or serious emergency, there will be no makeup final exams. Students will not be penalized for missing class. However, classes will be in-person only and will not be recorded.

Grades Your grade will be based on problem sets (10%), a midterm exam (30%) and a final exam (60%). Problem sets will be graded largely based on completion, using a “check plus/check/check minus/no credit” system to provide feedback, with a “check” or better earning you full credit. Sloppy, late, or incomplete work will not receive full credit. Grades will follow a system of $\geq 80\%$ for an A, 70-79% for an A–, 60-69% for a B+, etc.

ADA/Accessibility Tulane University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability, please let me know immediately so that we can privately discuss options. I will never ask for medical documentation from you to support potential accommodation needs. Instead, to establish reasonable accommodations, I may request that you register with the Goldman Center for Student Accessibility. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. Goldman Center contact information: goldman@tulane.edu, accessibility.tulane.edu, or (504) 862-8433.

Code of academic conduct The Code of Academic Conduct applies to undergraduate students, full-time and part-time, in Tulane University. Tulane University expects and requires behavior compatible with its high standards of scholarship. By accepting admission to the university, a student accepts its regulations (i.e., Code of Academic Conduct and Code of Student Conduct) and acknowledges the right of the university to take disciplinary action, including suspension or expulsion, for conduct judged unsatisfactory or disruptive.

Statement of equity, diversity, and inclusion Equity, diversity, and inclusion (EDI) are important Tulane values that drive excellence in our learning environments and help us build a supportive culture and climate for every member of our community. Diversity refers to many different identities and experiences that include the following and more: race, color, sex, religion, national origin, age, disability, genetic information, sexual orientation, gender identity, gender expression, pregnancy, marital status, military status, veteran status (or any other classification protected by applicable law). To live our values of EDI with one another, we acknowledge that each of us have areas of strength and growth in our EDI learning and competency that we each continuously work on to sustain EDI on our campus.

Religious accommodation policy Per Tulane's religious accommodation policy and our core values of diversity and inclusion, I will make every reasonable effort to ensure that students are able to observe religious holidays without jeopardizing their ability to fulfill their academic obligations. Excused absences do not relieve the student from the responsibility for any course work required during the period of absence. Students should notify me within the first two weeks of the semester about their intent to observe any holidays that fall on a class day or on the day of the final exam.

Course outline

Introduction

The economic approach to human behavior
Functions and comparative statics
Mathematical optimization

Producer theory

Production functions and isoquants

Returns to scale
Profit maximization
Input demand and output supply
Profit functions and Hotelling's lemma
Cost minimization
Cost functions and Shepherd's lemma

Fall break (October 5)

Midterm exam (October 10)

Consumer theory

Preference and choice
Utility theory
Lotteries
Expected utility
Risk attitudes
Risk premium
Utility maximization
Marshallian demand
Expenditure minimization
Hicksian demand
Slutsky equation

Thanksgiving break (November 20-26)

Competitive equilibrium

Partial equilibrium
Pure exchange economies
General equilibrium with production

Imperfect competition

Game theory and Nash equilibrium
Monopoly
Oligopoly

Final exam (December 13 at 8am)

Note: order and timing of material may be subject to change.

Title IX Tulane University recognizes the inherent dignity of all individuals and promotes respect for all people. As such, Tulane is committed to providing an environment free of all forms of discrimination including sexual and gender-based discrimination, harassment, and violence like sexual assault, intimate partner violence, and stalking. If you or someone you

know has experienced or is experiencing these types of behaviors, know that you are not alone. Resources and support are available: you can learn more at allin.tulane.edu. Any and all of your communications on these matters will be treated as either “Confidential” or “Private” as explained in the chart below. Please know that if you choose to confide in me I am mandated by the university to report to the Title IX Coordinator, as Tulane and I want to be sure you are connected with all the support the university can offer. You do not need to respond to outreach from the university if you do not want. You can also make a report yourself, including an anonymous report, through the form at tulane.edu/concerns.

| Confidential | Private |
|---|---|
| <i>Except in extreme circumstances, involving imminent danger to one’s self or others, nothing will be shared without your explicit permission.</i> | <i>Conversations are kept as confidential as possible, but information is shared with key staff members so the University can offer resources and accommodations and take action if necessary for safety reasons.</i> |
| Counseling & Psychological Services (CAPS) (504) 314-2277 or The Line (24/7) (504) 264-6074 | Case Management & Victim Support Services (504) 314-2160 or srss@tulane.edu |
| Student Health Center (504) 865-5255 | Tulane University Police (TUPD) Uptown - (504) 865-5911. Downtown – (504) 988-5531 |
| Sexual Aggression Peer Hotline and Education (SAPHE) (504) 654-9543 | Title IX Coordinator (504) 314-2160 or msmith76@tulane.edu |

Emergency preparedness and response

| EMERGENCY NOTIFICATIONS: TU ALERT | SEVERE WEATHER |
|---|---|
| <p>In the event of a campus emergency, Tulane University will notify students, faculty, and staff by email, text, and/or phone call. You were automatically enrolled in this system when you enrolled at the university.</p> <p>Check your contact information annually in Gibson Online to confirm its accuracy.</p> | <ul style="list-style-type: none"> ▪ Follow all TU Alerts and outdoor warning sirens ▪ Seek shelter indoors until the severe weather threat has passed and an all-clear message is given ▪ Do not use elevators ▪ Do not attempt to travel outside if weather is severe <p>Monitor the Tulane Emergency website (tulane.edu/emergency/) for university-wide closures during a severe weather event</p> |
| ACTIVE SHOOTER / VIOLENT ATTACKER | EVERBRIDGE APP |
| <ul style="list-style-type: none"> ▪ RUN – run away from or avoid the affected area, if possible ▪ HIDE – go into the nearest room that can be locked, turn out the lights, and remain hidden until all-clear message is given through TU ALERT ▪ FIGHT – do not attempt this option, except as a last resort ▪ For more information or to schedule a training, visit emergencyprep.tulane.edu | <ul style="list-style-type: none"> ▪ Download the Everbridge app from the App Store or Google Play store ▪ The Report feature allows you to silently and discreetly communicate with TUPD dispatchers ▪ The SOS button allows you to notify TUPD if you need help ▪ The Safe Corridor button serves as a virtual escort and allows you to send check-in notifications to TUPD |

In the event of university closure, October 14, October 15, November 11, or November 12 may be used as make-up days.