

# Syllabus

## Fall, 2024

### Course Information

Course Number: ECON 629  
Course Title: Microeconomic Theory I  
Section: 601  
Time: MW 11:30 am - 12:45 pm  
Location: ALLN 1006  
Credit Hours: 3

### Instructor Details

**Instructor:** Professor Guoqiang Tian  
**Office:** LASB 256  
**Phone:** 845-7393  
**E-Mail:** gtian@tamu.edu  
**Office Hours:** MW 8: 50 am-9:50 am or by appointment (face to face or online)  
**Link:** <https://tamu.zoom.us/j/362-397-3071>  
**Password:** 123456

**Teaching Assistant:** Kenneth Chu  
**Office:** LASB 261  
**Phone:**  
**E-Mail:** kennethchu@tamu.edu  
**Recitation:** F 9:00 am – 10:15 am  
**Location:** LASB 172  
**Office Hours:** M 2:00 pm – 4:00 pm

### Course Description

This course is the first in the advanced microeconomic theory sequence, designed to meet the needs of students in the economics Ph.D. program, and it is essential for all graduate students to master its content. The course provides in-depth coverage of the standard topics in price theory, including consumer theory, producer theory, individual decision-making under uncertainty, and general equilibrium, as well as market efficiency. It is assumed that students are already familiar with basics of these subjects from your principal and intermediate microeconomics courses. However, this course will develop them in significantly greater depth and with more mathematical rigor. Consequently, the course demands an exceptional level of mathematical sophistication. We will begin with a brief overview of the nature, essence, category, thoughts, and methodologies inherent in the discipline of economics before delving into these aforementioned topics.

## Course Learning Outcomes

Through engaging with the material in this course, students are expected to master fundamental concepts essential for a thorough understanding of microeconomics and acquire the basic theoretical frameworks necessary in various economics and business-related fields. Specifically, upon successful completion of this course, students will be able to:

1. **Demonstrate a clear understanding** of individual decision-making regarding optimal consumption and production, and how markets are organized to achieve competitive equilibrium.
2. **Elucidate the properties** of preferences and utility functions, deriving individual and market demand curves from these foundations.
3. **Discuss the interrelationship** among utility, indirect utility, expenditure, and demand functions.
4. **Demonstrate the properties** of demand functions.
5. **Explore the recovery** of utility functions or preferences through integrability and revealed preferences.
6. **Discuss the properties** of production technologies and cost functions in depth.
7. **Show how firms** maximize profits or minimize production costs under both competitive and non-competitive market conditions.
8. **Gain familiarity** with the concept and main results of expected utility theory.
9. **Discuss the measure** of risk aversion and the principle of stochastic dominance.
10. **Formulate and solve** general equilibrium models, demonstrating a practical application of theoretical concepts.
11. **Present the two fundamental welfare theorems** of economics and their significance in economic policy and theory.
12. **Comprehend and articulate** the proofs of the main theoretical results covered in the course.

Overall, this curriculum aims to equip students with a robust understanding of advanced microeconomic theories, enhancing their analytical capabilities for further academic pursuits and professional engagements in economics.

## Textbook and/or Resource Materials

The textbooks are as follows:

- (1) “*Microeconomic Theory*” by A. Mas-Colell, M. D. Whinston, and J.R. Green (1995);
- (2) “*Advanced Microeconomic Theory*” by G. Jehle and P. Reny, Prentice Hall, 2011.

While these texts provide excellent additional reference material, the primary resource for the course will be my book draft titled “Advanced Microeconomic Theory.” This draft is integral to

the course and is available for download from both Canvas and my personal website at: [http://people.tamu.edu/~gtian/teaching\\_and\\_class\\_materials.html](http://people.tamu.edu/~gtian/teaching_and_class_materials.html).

## Grading Policy

You will be evaluated through a series of homework sets and two exams. Homework assignments will be given periodically throughout the course to facilitate learning and reinforce the material discussed in lectures. Completing these problem sets is crucial, as it will significantly enhance your understanding of the course materials. Additionally, to ensure adequate preparation for the exams, it is strongly recommended that you thoroughly study the questions in the exercises provided in my book draft.

Your final grade will be determined based on the following weighting:

- **Homework: 20%**
- **Exam 1: 40%**
- **Exam 2: 40%**

## Late Work Policy

All assignments must be turned in on time. Late work and missed exams will be governed by university rules on university-excused absences (*See Student Rule 7*: <https://student-rules.tamu.edu/rule07/>).

## Course Schedule

Week 1: The Nature of Modern Economics (Chapter 1 of Lecture Notes)

- Economics and Modern Economics (Sec. 1.1)
- Two Categories of Economic Theory (Sec. 1.2)
- Government, Market, and Social Norms (Sec. 1.4)
- Basic Analytical Framework of Modern Economics (Sec. 1.10)
- Basic Research Methods in Economics (Sec. 1.11)

Weeks 1-7: Consumer Theory (Chapter 3 of Lecture Notes)

- Consumption Set and Budget Constraint (Sec. 3.2)
- Preferences and Utility (Sec. 3.3)
- Utility Maximization and Optimal Choice (Sec. 3.4.1-3.4.3)
- The Indirect Utility Function, Expenditure, and Minimum Income Functions (Sec. 3.5)
- Relationships between Utility, Indirect Utility, Expenditure, and Demand Functions (Sec. 3.6)
- Properties of Demand Functions (Sec. 3.7.3-3.7.6)
- Integrability and Revealed Preferences (Sec. 3.8)

Weeks 8-9: Producer Theory (Chapter 4 of Lecture Notes)

- Production Technology (Sec. 4.2.1-4.2.4)
- Profit Maximization (Sec. 4.3.1-4.3.6)
- Cost Minimization (Sec. 4.4.1-4.4.5)

**Exam 1: Friday, November 1, 8:30 am - 10:30 am at LASB 172** (Includes materials up to producer theory)

Weeks 10-12: Choice under Uncertainty (Chapter 5 of Lecture Notes)

- Three Classical Theoretical Models Decision-Making under Uncertainty
- Von Neumann-Morgenstern Expected Utility Theory (Sec. 5.3)
- Risk Aversion and Stochastic Dominance (Sec. 5.4)
- Two Classical Paradoxes of Choice under Uncertainty
- Prospect Theory (Sec. 5.7.2)
- Case-Based Decision Theory (Sec. 5.7.4)

Weeks 13-15: General Equilibrium Theory (Chapters 10-11 of Lecture Notes)

- General Equilibrium Model (Sec. 10.2)
- Pure Exchange Economy and Robinson Crusoe Economy (Sec. 10.3)
- Existence of Competitive Equilibrium (Sec. 10.4.1-10.4.3)
- Pareto Efficiency (Sec. 11.2)
- Characterization and Computation of Pareto Optimal Allocations (Sec. 10.4)
- Two Fundamental Theorems of Welfare Economics (Secs. 11.3 and 11.5)

**Exam 2: Tuesday, December 10, 10:30 am - 12:30 pm at ALLN 1006** (Includes materials lectured between weeks 10 and 15)

## University Policies

### Attendance Policy

All students in the course are **required** to attend class and complete all homework assignments and exams.

The university considers class attendance and participation as the individual responsibility of each student. It is expected that students attend class and fulfill all assigned tasks.

Please refer to [Student Rule 7](#) in its entirety for information about excused absences, including definitions, and related documentation and timelines.

## Makeup Work Policy

Make-up exams are permitted only under specific circumstances and in accordance with the rules outlined in Sections 7.1-7.4 of the University Students' Rule. To obtain permission for a make-up exam, you must adhere to the guidelines specified in Section 7.3:

"Except in the case of the observance of a religious holiday, in order to be excused, the student must provide **written notification** to the instructor in advance of the absence, if feasible. Notification can be submitted via an acknowledged email message. If advance notification is not feasible (e.g., due to an accident or emergency), **the student must provide notification no later than the end of the second working day after the absence**. This notification should include an explanation as to why prior notice could not be sent before the class. Requests for accommodations due to absences related to the observance of a religious holiday can be made either before or after the absence, but must be submitted no later than two working days after the absence."

Please refer to [Student Rule 7](#) in its entirety for information about makeup work, including definitions, and related documentation and timelines.

Absences related to Title IX of the Education Amendments of 1972 may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor" ([Student Rule 7, Section 7.4.1](#)).

"The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence" ([Student Rule 7, Section 7.4.2](#)).

Students who request an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. (See [Student Rule 24](#).)

## Agreement in Writing

**All agreements should be documented in writing.** If you have any inquiries about obtaining an excuse or require special accommodation in class, it is essential to communicate these details in writing. Should our conversation lead you to believe that you are entitled to a special accommodation, please follow up by sending me an email to request confirmation. Without written confirmation from me, you are not entitled to any special accommodations.

## Academic Integrity Statement and Policy

**"An Aggie does not lie, cheat or steal, or tolerate those who do."**

*During the exams, it is important that you refrain from talking or sending messages to other students in your class. If you have any questions or need assistance, please direct them to the proctors who are present to help you.*

"Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the

work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case" ([Section 20.1.2.3, Student Rule 20](#)).

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at [aggiehonor.tamu.edu](http://aggiehonor.tamu.edu).

### Americans with Disabilities Act (ADA) Policy

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit [disability.tamu.edu](http://disability.tamu.edu). Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

### Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see [University Rule 08.01.01.M1](#)):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, you will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University's goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with [Counseling and Psychological Services](#) (CAPS).

Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's [Title IX webpage](#).

### Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student's academic success and overall wellbeing. Students are encouraged to engage in proper self-care by utilizing the resources and services available from Counseling & Psychological Services (CAPS). Students who need someone to talk to can call the Texas A&M Helpline (979-845-2700) from 4 p.m. to 8 a.m. weekdays and 24 hours on weekends. Emergency help is also available 24 hours through the National Suicide and Crisis Hotline 988.