

# ECON 501: Applied Microeconomics I

Fall, 2024

Instructor: Foteini Tzachrista  
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Class Credit Hours: 4 credits  
Class hours: MW 4:30 - 5:45 PM  
Classroom: Lincoln Hall - Room 115

Drop-in hours: W 10am-12pm (or by appt [here](#))  
Office location: University Hall - Office 709

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## Course Description:

This course focuses on microeconomic analysis, emphasizing practical examples to illustrate microeconomic theories. It lays a foundational understanding of micro theory, which is essential for exploring various fields of economics and finance. Students will learn about the methodological challenges in applying these models and interpret their results in decision-making contexts. The course bridges the gap between microeconomic theory, real-world decision-making, and policy issues, providing the theoretical and analytical base for advanced studies. Students will master microeconomic theory with a level of mathematical rigor suitable for a professional master's program in applied economics.

The course assumes that students have taken undergraduate intermediate microeconomics classes. It also assumes that students are comfortable with multivariable calculus, linear algebra, and basic real analysis

## Learning Objectives:

On completing the module a student will be able to:

1. understand: the theory of consumer choice, the theory of the firm; the theory of imperfect competition in different markets;
2. understand the relevant methods (some reasonable level of maths including calculus, differentiation, integral, probability, and linear algebra) and then be able to solve the analytical exercises. In most cases, they are the constrained optimization problems;

3. command some basic proof techniques and logical reasoning, which are essential skills in applying the theory to practice and analyzing policy;
4. understand techniques involved in applications of the above theories;
5. understand the application of theoretical materials to policy issues.

## Prerequisites:

Grade of C or better in ECON 481 or Grade of C or better in ECON 482. Departmental approval required.

## Course Website:

[uic.blackboard.com](http://uic.blackboard.com) - Announcements, the course syllabus, lecture slides, problem sets, grades will be available on Blackboard.

## Course Setup:

- **Coursebooks:**

**Required:**

Varian, H., Microeconomic Analysis 3rd Edition, W.W. Norton & Co., 1992 (V)

*This is a well written text, offering a clear, complete and formal treatment of all important topics in microeconomics. It is (probably) the most widely used graduate text for microeconomics in the world.*

Recommended

The following textbooks are also useful references although not really required.

Gravelle, H. and Rees, R, Microeconomics, 2nd Edition, Longmans, 1992.

*This is a thorough treatment of microeconomic analysis, with an emphasis on the underlying theory and with some basic use of mathematics.*

Kreps, D., A Course in Microeconomic Theory, Harvester Wheatsheaf, 1990. (Kreps)

*Readers will enjoy the chapters on individual and social choice, game theory and topics in information economics. This is a well written text and an alternative to Gravelle and Rees.*

Mas-Colell, Winston and Green, Microeconomic Theory, Oxford University Press, 1995. (MWG)

*This is perhaps the most advanced and complete treatment of microeconomics. It is generally taken as the text for graduate modules like Advanced Microeconomics in the world.*

Jehle, G. and P. Reny, Advanced Microeconomics Theory, 3rd, Prentice Hall, 2011.

*This is a more complete and more formal presentation of the required topics compared to the above books. It is recommended for students with a good economics background who are happy to pursue the subject on an advanced modern level.*

Felix Munoz-Garcia. Advanced Microeconomic Theory: An Intuitive Approach with Examples. 2017. ISBN: 9780262035446.

*This provides more of the essence and the main takeaways for an advanced microeconomics course.*

Any additional readings will be posted on Blackboard.

- **Lectures:**

This course follows a traditional face-to-face format, with lectures recorded only for review purposes. Attendance is strongly encouraged, and you are not advised to skip classes. The course format may change at any time during the semester if campus health and safety guidelines related to COVID-19 change. In a typical face-to-face classroom, activities will include engaging in question and answer sessions, solving problems, taking exams, discussing major concepts, and practicing difficult key concepts. The remaining coursework will occur online, primarily on Blackboard, with online and in-class activities designed to complement each other.

If you feel sick or are diagnosed with COVID-19, please stay home. Similarly, if you come into contact with someone who is sick, whether with COVID-19 or not, please stay home. To keep up with the material, you are advised to read the scheduled book chapters, review the slides, and attend virtual drop-in hours with me. If you get sick, you are not required to inform me, but if you choose to do so, I will not disclose your condition or trace your contacts with others in the class.

- **Attendance:**

Attendance is expected. Research shows that students who attend in-person classes earn higher grades. So you are advised to attend classes in-person if circumstances allow. In case of an emergency please contact the instructor asap for potential accommodations. Skipping classes without informing the instructor will result in a grade penalty.

- **Pop quizzes:**

To encourage active attendance, there will be 10 in-class pop quizzes randomly distributed throughout the semester. These quizzes will be graded for accuracy and will contribute to your overall course grade.

- **Drop-in Hours:**

Drop by my office for questions about the material, problem sets etc. *I will try my best to help!* Drop-in hours are **dedicated times** for you, use them for your **benefit!** I will hold drop-in hours in my office or virtually upon request. You can request an appointment with me through the [foteini.youcanbook.me](https://foteini.youcanbook.me) link. No need to email me unless you need any special accommodations. When online, drop-in hours will not be recorded.

- **Slides:**

Slides will be uploaded on Blackboard. Notes on the slides will also be uploaded after we finish going through a set of slides. If the slides change during the week as we progress through the material, they will be updated. The slides will not include all of the examples we cover in class, or our discussions on the material.

- **Problem sets:**

You will have 7 problem sets that you have to complete in this class. You will be able to submit them on Blackboard. You are highly encouraged to use a document editor to answer problem sets (that can be Word or ideally L<sup>A</sup>T<sub>E</sub>X). The deadlines of all problem sets are indicated on the class schedule down below, but are subject to change as announced in class. It is your responsibility to make sure that you submit your answers before the due date and time and that you use a reliable computer with a strong internet connection to avoid any issues.

You are allowed and encouraged to work together for the problem sets. However, you must submit individually the answers with explanations in your own words.

- **Missed and late work:** You are advised to start each problem set as soon as possible because you never know what could come up. If you are running behind please let the instructor know. Answers on problem sets will be posted by the instructor **after** the deadline for review purposes, therefore, there will be no make-ups after answers are posted.

Under extreme conditions (injuries/accidents, illness, or death in the family), you may be allowed by the instructor to submit past the deadline. In that case, there will be a 10% penalty for every day you delay the submission.

- **Exams:**

In this class, there will be two on-campus exams that will cover the material taught up until the week prior to the exam. Additionally, a cumulative final exam will be given at the end of the semester. The content of any given exam may change at the instructor's discretion. It is important to arrive on time for exams, as arriving late will result in less time to complete them.

- **Missed exams:** There will be no make-ups for missed exams except in extreme conditions (injuries/accidents, illness, or death in the family). In any of these cases, please inform me as soon as reasonably possible, AND provide original legitimate supporting documents (within one week). Otherwise you are risking receiving zero points for the exam.

- **Course Communication:**

My preferred methods of communication are during or after class, during drop-in hours, and via email. I will communicate with you mainly through announcements on Blackboard whenever necessary. If there is any other information I think is important, I will send it to the email address you have on Blackboard. It is your responsibility to ensure that your email account works properly in order to receive email.

Here is how you can check your primary email address on Blackboard:

- Access [uic.blackboard.com](http://uic.blackboard.com)
- Click your name on the main Blackboard navigation panel on the left
- Review your email address. By default, Blackboard uses your university-issued email address.

More information about your primary email [here](#).

## Grading:

You can earn a total of 100 points. Grades are based on the following items:

- *Pop quizzes*: 10% or 10 points in total. Each of the 10 graded in-class quizzes will be worth 1 point each.
- *Problem sets*: 35% or 35 points in total. Each of the 7 problem sets will be worth 5 points each.
- *Exams*:
  - *Exam 1*: 20% or 20 points
  - *Exam 2*: 20% or 20 points
  - *Final Exam*: 15% or 15 points

### Anticipated Grading Scale:

The final score from the above elements will determine the letter grade based on the following scale:

A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

There will be no changes to the grading scale. Grades will be rounded to the nearest whole number and NOT up to the next whole number. This means that 89.5% will be rounded to 90% but 89.4% will be rounded to 89%. There will NOT be ANY CURVING in this class.

## Technology Requirements:

To participate in learning activities and complete problem sets, you will need:

- Access to a working computer that has a current operating system with updates installed;
- Reliable internet access and a UIC email account;
- A current Internet browser that is compatible with Blackboard (Mozilla Firefox and Google Chrome are the recommended browsers for Blackboard);
- A document editor to answer problem sets (Word or ideally  $\text{\LaTeX}$ );
- Any PDF reader that you might want to use to view material and enough storage space if you opt to save the class material.

**Save and Sync work.** UIC box is very useful to save and sync your work. Instructions for setting up your free UIC BOX account are here: <http://accu.uic.edu/service/box>. Dropbox and Git are also good options.

## Minimal Technical Skills Needed

Minimal technical skills are needed in this course. Most course work will be completed and submitted on Blackboard. Therefore, you must have consistent and reliable access to a computer and the internet. The minimal technical skills you have include the ability to:

- Organize and save electronic files;
- Use UIC email and attached files;
- Check email and Blackboard daily;
- Locate information with a browser; and
- Use Blackboard.

## Accommodations:

### 1. Disability Services:

UIC is committed to full inclusion and participation of people with disabilities in all aspects of university life. If you face or anticipate disability-related barriers while at UIC, please connect with the Disability Resource Center (DRC) at [drc.uic.edu](http://drc.uic.edu), via email at [drc@uic.edu](mailto:drc@uic.edu), or call (312) 413-2183 to create a plan for reasonable accommodations. In order to receive accommodations, you will need to disclose the disability to the DRC, complete an interactive registration process with the DRC, and provide me with a Letter of Accommodation (LOA). Upon receipt of a LOA, I will gladly work with you and the DRC to implement approved accommodations.

### 2. Religious Observances:

Students who wish to observe a religious holiday that conflicts with required coursework shall notify the instructor within the first two weeks of the semester. I will make every reasonable effort to honor the request. See the [Office of Access and Equity](#) for details about UIC's policy on Religious Accommodations.

### 3. Technical Support:

The University has set up free Virtual Computer Labs. You can find out how to access a Virtual Lab here: <https://it.uic.edu/services/student/software-resources/remote-access-to-specialized-software-with-virtual-computer-labs/>.

For all technical questions about Blackboard, email the CATE Learning Technology Solutions team at [LTS@uic.edu](mailto:LTS@uic.edu).

### 4. Writing Center:

The [Writing Center](#) offers friendly and supportive tutors who can help you with reading and writing in any of your courses, not just English. Tutors are ready to help other writing as well, such as job applications, personal statements, and resumes. The tutor and you will work together to decide how to improve your writing. If you have not started your assignment, that is OK. A tutor can help you brainstorm or make an outline. Tutors understand that you might be using the Writing Center for the first time. They are ready to guide you

through your first session. You can choose to work with a tutor in real time using chat and a white board, or submit up to 5 pages of text and receive written feedback within 48 hours. For more information and to schedule an appointment, visit the Writing Center website: <https://writingcenter.uic.edu/>.

**5. Math and Science Learning Center:**

The **Math and Science Learning Center**, located in the Science and Engineering South Building (SES) at 845 W. Taylor St. 3rd Floor, Room 247, is a meeting place for students in Math, Biological Sciences, Chemistry, Earth and Environmental Sciences, and Physics. At the MSLC, students can meet with graduate teaching assistants for tutoring in 100-level courses, arrange informal group study sessions with other students, or meet up with friends to attend one of the workshops, seminars, or other activities sponsored by the SLC during the semester. Visit the website at <https://mslc.uic.edu/>, call 312-355-4900, or email at [mslc@uic.edu](mailto:mslc@uic.edu).

**6. UIC Library:**

The **UIC Library** is located both on east and west campus, provides access to resources, study rooms, and research support both online via chat and in person. At Daley Library on the east side of campus, stop by the reference desk in the IDEA Commons, or make an appointment for research help on either side of campus. Learn more about library policies at <http://library.uic.edu/>. To find research materials in specific subject areas view the Research Guides at <http://researchguides.uic.edu/>. Note that a health check is required before you'll be able to enter the library buildings during the COVID-19 pandemic.

**7. Academic Center for Excellence:**

The **Academic Center for Excellence (ACE)** can help if you feel you need more individualized instruction in reading and/or writing, study skills, time management, etc. Please call (312) 413-0031 or visit <https://ace.uic.edu/> for more information.

**8. Counseling Services:**

**Counseling Services** are available for all UIC students. You may seek free and confidential services from the Counseling Center at <https://counseling.uic.edu/>. The Counseling Center is located in the Student Services Building; you may contact them at (312) 996-3490 during normal business hours (M-F, 9 am - 5 pm). If calling after hours, press 2 to be connected to a crisis counselor. In addition to offering counseling services, the Counseling Center also operates the InTouch Crisis Hotline from 6:00 p.m.-10:30 p.m. They offer support and referrals to callers, as well as telephone crisis interventions; please call (312) 996-5535.

**9. Campus Advocacy Network:**

The **Campus Advocacy Network** provides information and offers resources to all UIC students, faculty, and staff. Under the Title IX law you have the right to an education that is free from any form of gender-based violence and discrimination. Crimes of sexual assault, domestic violence, sexual harassment, and stalking are against the law and can be prevented. For more information or for confidential victim-services and advocacy, contact UIC's Campus Advocacy Network at 312-413-1025 or visit <http://can.uic.edu/>. To make a report to UIC's Title IX office, email [TitleIX@uic.edu](mailto:TitleIX@uic.edu) or call (312) 996-5657.



## 10. Campus Security:

As a UIC student, you've chosen to live in one of the nation's largest cities. But, as at any university, crime is a reality. At UIC, we are strongly committed to our public safety programs, and we encourage students to be proactive in learning what programs and services are available in case of an emergency. You are **DISCOURAGED** from staying in university buildings alone, including lab rooms, after hours and are **ENCOURAGED** to use the POLICE/STUDENT patrol escort if you are uncomfortable traveling anywhere on campus. You may request an escort to accompany you to your campus destination on foot by calling (312)996-2830, and between 11:00 pm and 7:00 am you can dial the Red Car service (312)996-6800 if you are alone and need to leave the building. Through Red Car, the university has established a safe evening transportation service for university employees, students, visitors, and other authorized individuals. The car travels between university facilities within the following general boundaries: Clinton Street on the east; Western Avenue on the west; Jackson Boulevard on the north; and, 16th on the south. This service is available only to individuals possessing a valid UIC i-card. The i-card is required to ensure the safety of the driver and other passengers. Navigate to Life at UIC (<https://www.uic.edu/life-at-uic/>) for more information.

Also, you can download the UIC SAFE app, a free personal security tool for students, faculty, and staff. It allows you easy contact with dispatchers and first responders in case of emergency. Navigate to the UIC SAFE Toolkit to download the app: <https://ready.uic.edu/digital-materials/uic-safe-app/>.

Finally, by dialing 5-5555 from a campus phone, you can summon Police or Fire for any on-campus emergency. You may also set up the complete number, (312)355-5555, on speed-dial on your cell phone.

## Course and University Policies:

### 1. Diversity, Equity and Inclusion:

UIC values diversity and inclusion. Regardless of age, disability, ethnicity, race, gender, gender identity, sexual orientation, socioeconomic status, geographic background, religion, political ideology, language, or culture, we expect all members of this class to contribute to a respectful, welcoming, and inclusive environment for every other member of our class. If there are aspects of the instruction or design of this course that result in barriers to your inclusion, engagement, accurate assessment or achievement, please notify me as soon as possible.

Every student in this class comes from a different background. My biggest goal in this class is to provide an atmosphere of learning that is representative of a variety of perspectives. The discipline of Economics would be heavily deprived in the absence of diverse opinions. Questioning is a big part of learning so any questions and concerns are welcomed. Good discussions can be energetic and passionate but are neither abusive nor offensive. I am also committed to ensuring course accessibility for all students. If you need any special accommodations please notify me at least one week before accommodation is needed.

### 2. Title IX and Gendered Pronouns [credit to Dr. David Moscovitz]



This course affirms equality and respect for all gendered identities and expressions. Please don't hesitate to correct me regarding your preferred gender pronoun and/or name if different from what is indicated on the official class roster. Likewise, I am committed to nurturing an environment free from discrimination and harassment. Consistent with Title IX policy, please be aware that I as a responsible employee am obligated to report information that you provide to me about a situation involving sexual harassment or assault.

**3. Copyright and the use of course materials:**

Please protect the integrity of all course materials and content. By enrolling in this course, you agree to honor this request. Be mindful of the hard work and time that instructors put into creating course materials such as exam and quiz questions, lecture videos, and reading materials. Please do not upload course materials not created by you onto third-party websites or share content with anyone who is not enrolled in our course. I am grateful for your cooperation in honoring this important request.

**4. Academic Integrity:**

This course and its associated coursework are being administered under the policies of the University of Illinois at Chicago (UIC) Honor Code. All students are expected to respect and uphold this code. You are responsible for knowing and following the Student Disciplinary Policy at the UIC. See <https://dos.uic.edu/community-standards/academic-integrity/>. Cheating, plagiarizing, and other misconduct as discussed in the policy will result in a failing grade and/or dismissal from the University.

The recent advances in AI technology are already transforming the ways humans communicate. In order to prepare students for an AI-infused world, the use of AI writing tools in this class is permitted in some ways. Students are encouraged to use AI writing tools (such as ChatGPT, Bard, or Sudowrite) to generate ideas for their writing and course work in this class, however it is expected that all AI-generated content be reviewed, edited, and verified for accuracy before submission. Please note that you need to cite the specific AI writing tool as a source if you present any significant amount (i.e., more than one sentence) of minimally edited AI-generated text as your own. Please review the [APA](#) or [MLA](#) guidelines for citing generative AI writing tools.

## Schedule:

The schedule is tentative and subject to change. An updated schedule will be posted on Blackboard in case there are any changes. You can use the schedule as a study guide before each exam, and at the end of the term. This is NOT an exhaustive list of all the topics covered in class.

Module Week: Dates	Topic	References	Problem Sets
Week 1: 08/26 - 08/30	Preferences & Utility	V Ch 7 , MWG Ch 1, Kreps Ch 1 & 2	
Week 2: 09/02 - 09/06	09/02 - Labor Day holiday. No classes.		
	Preferences & Utility (cont.)	V Ch 7 , MWG Ch 1, Kreps Ch 1 & 2	
Week 3: 09/09 - 09/13	Consumer Theory	V Ch 8& 9 , MWG Ch 2, Kreps Ch 3	
	<i>Utility maximization, expenditure minimization</i>		Problem Set 1 - Deadline: 09/13 , end of day
Week 4: 09/16 - 09/20	Consumer Theory (cont.)	V Ch 10 , MWG Ch 3 , Kreps Ch 10 & 11	
	<i>Hicksian &amp; Marshallian decomposition, Comparative Statistics</i>		Problem Set 2 - Deadline: 09/20 , end of day
Week 5: 09/23 - 09/27	Consumer Theory Applications	MWG Ch 4	Problem Set 3 - Deadline: 09/27 , end of day
Week 6: 09/30 - 10/04	10/02 - Exam 1		
Week 7: 10/07 - 10/11	Producer Theory	V Ch 1-3, MWG Ch 5	
	<i>Costs, returns to scale, short- &amp; long-run optimization</i>		
Week 8: 10/14 - 10/18	Producer Theory (cont.)	V Ch 4-6, MWG Ch 5	
	<i>Aggregate levels &amp; efficient production</i>		Problem Set 4 - Deadline: 10/18 , end of day
Week 9: 10/21 - 10/25	Competition Vs. Monopoly	V Ch 13 & 14	
	<i>Optimization and price discrimination</i>		Problem Set 5 - Deadline: 10/25 , end of day
Week 10: 10/28 - 11/01	Oligopoly	V Ch 16	
	<i>Cournot, Stackelberg, Bertrand, Hotelling</i>		Problem Set 6 - Deadline: 11/01 , end of day
Week 11: 11/04 - 11/08	Producer Theory & IO Applications		Problem Set 7 - Deadline: 11/08 , end of day
Week 12: 11/11 - 11/15	11/13 - Exam 2		
Week 13: 11/18 - 11/22	Game Theory	V Ch 15	
Week 14: 11/25 - 11/29	11/27 - 11/29 Thanksgiving holiday. No classes.		
	Public Goods	V Ch 23	
Week 15: 12/02 - 12/06	Externalities	V Ch 24	
Week 16: 12/09 - 12/13	Final exam - 12/10 @ 5:30 pm		