ECON 7030

Microeconomic Theory II

Spring 2026

Course Information

Class Time: Mondays and Wednesdays, 11:00 AM - 12:15 PM
Classroom: ECON 05

Instructor Information

Instructor: Ernesto Rivera Mora
Office: ECON 04B
Email: Ernesto.RiveraMora@colorado.edu
Office Hours: Tuesdays 3:00 - 4:30 PM

TA Information

TA: Megan Rice
Email: megan.ricek@colorado.edu
Office Hours: TBA
Recitation session: TBA

Course Description

This is a graduate-level course covering market failures and game theory. The first part analyzes two causes of market failures: public goods and externalities, examining how individual incentives lead to socially suboptimal outcomes. The second part focuses on game theory, covering both classical and modern approaches to strategic interaction, including static and dynamic games with complete and incomplete information. Topics include Nash equilibrium, sequential games, repeated games, bargaining, auctions, signaling, mechanism design, and principal-agent problems.

The course emphasizes both theoretical foundations and practical applications in economics, with applications on environmental economics (e.g., pollution control), industrial organization (e.g., olygopoly competition), information economics (e.g., asymmetric information and screening).

Course Materials

I will not follow a single textbook. However, there are several resources that you can refer to:

- *Microeconomic Theory*, by Mas-Colell, Whinston, and Green. This is the standard first-year textbook.

- *A Course in Game Theory* by Martin Osborne and Ariel Rubinstein, which is available online for free. https://www.economics.utoronto.ca/osborne/cgt/

- *Game Theory*, by Drew Fudenberg and Jean Tirole. This advanced text introduces the principles of noncooperative game theory in a direct and simple style.

- Lecture notes on Game Theory and Information Economics by William H. Sandholm. Link: https://users.ssc.wisc.edu/~whs/gtie.pdf

Important Dates

- **First Day of Class:** Thursday, January 8th

- **Spring Break:** March 16th–20th (No classes; campus closed Friday, March 20th)

- **Midterm:** Wednesday, March 4th (at class time)

- **Final Exam:** Date TBA

Grading

- Problem Sets (30%)

- Midterm Exam (35%): Wednesday March 4th (at class time)

- Final Exam (35%): date TBA

Exams will all be in closed-book format.

Problem Sets

There is a problem set assigned for each chapter. There will be approximately 13 problem sets in total.

Order: You need to submit problems in the established order. (Problem 1 before problem 2, etc.) Incomplete problems will be partially graded.

Format: Problem sets must be submitted to Canvas in PDF format. The file can be created using LaTeX, Word, or scanned/photographed handwritten work. If you choose to scan/photograph your work, please use a scanning app that enhances image quality and converts images to clear, legible PDFs. Recommended free apps include Adobe Scan, Microsoft Office Lens, Google Drive, CamScanner, or similar. Blurry pages will not be graded.

Deadlines: The deadline is Monday before class. You will have at least 7 days to write and submit the homework on the canvas website. Please start your homework early, so we will have time to answer questions. The grade will decrease 10% for each late day of submission.

Latex Requirement: Since you need to practice using Latex, at least one of your assignments needs to be typed in LaTex format.

Working in Groups: I strongly encouraged you all to work on groups. (In my experience, this is the most efficient way to practice for the exams.) However, each sentence you write should be yours.

Use of Artificial Intelligence Tools: Using generative AI tools (such as ChatGPT, Gemini, Copilot, or similar services) to solve, generate, complete, or substantially assist with any part of the problem sets or exam preparation materials is strictly prohibited. Any use of AI tools for coursework in this class will be treated as a violation of the CU Boulder Honor Code and reported to Student Conduct & Conflict Resolution. By contrast, using AI tools solely for grammar checking, language editing, or formatting and compiling your LaTeX files is acceptable, provided that all mathematical content and problem-solving steps are entirely your own work.

Office Hours Policy: Office hours are held every Tuesday from 3:00–4:30 PM. To attend office hours, you must schedule a time slot in advance using the shared Google Drive sign-up sheet, available at the link:. Please make sure to reserve a slot by Monday night. https://docs.google.com/spreadsheets/d/1yZVxuUpcnhH4e9uCdyAAL0NFDCpdgZX79QzG77UarU0/edit?usp=sharing

Tentative Class Outline

The following schedule outlines the topics we will cover each week. This schedule is subject to change, and any updates will be announced in class and posted on Canvas.

Week	Topic
Week 1 Jan 12–18	CH1. Externalities and Public Goods
Week 2 Jan 19–25	CH2. Nash Equilibrium
Week 3 Jan 26–Feb 1	CH3. Sequential Move Games
Week 4 Feb 2–8	CH4. Bayesian Nash Equilibrium
Week 5 Feb 9–15	CH5. Existence of Equilibria
Week 6 Feb 16–22	CH6. Dominance and Rationalizability
Week 7 Feb 23–Mar 1	CH7. Repeated Games
Week 8 Mar 2–8	Review and Midterm Preparation **Wednesday Mar 4th: Midterm (CH1–7)**
Week 9 Mar 9–15	CH8. Equilibrium Refinements
Week 10 Mar 16–22	**Spring Break – No Classes (Mar 16–20)**
Week 11 Mar 23–29	CH9. Bargaining
Week 12 Mar 30–Apr 5	CH10. Signaling
Week 13 Apr 6–12	CH11. Auctions
Week 14 Apr 13–19	CH12. Mechanism Design
Week 15 Apr 20–24	CH13. The Principal-Agent Problem
Finals Week Apr 27–May 1	**Final Exam: TBA (during university final exam period)**

University Policies

Classroom Behavior

Students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, marital status, political affiliation, or political philosophy. For more information, see the classroom behavior policy, Student Code of Conduct, and the Office of Institutional Equity and Compliance.

Accommodation for Disabilities, Temporary Medical Conditions, and Medical Isolation

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or DSinfo@colorado.edu for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website.

Preferred Student Names and Pronouns

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

Honor Code

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the Honor Code may include but are not limited to: plagiarism (including use of paper writing services or technology [such as essay bots]), cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. Understanding the course's syllabus is a vital part in adhering to the Honor Code.

All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution (StudentConduct@colorado.edu). Students found responsible for violating the Honor Code will be assigned resolution outcomes from Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Visit Honor Code for more information on the academic integrity policy.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. University policy prohibits protected-class discrimination and harassment, sexual misconduct (harassment, exploitation, and assault), intimate partner abuse (dating or domestic violence), stalking, and related retaliation. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals can contact OIEC at 303-492-2127 or cure-port@colorado.edu.

Faculty and graduate instructors must inform OIEC when made aware of incidents related to these policies. This ensures that individuals impacted receive outreach about resolution options and support resources.

Accommodation for Religious Obligations

Campus policy requires faculty to provide reasonable accommodations for students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Please communicate the need for a religious accommodation in a timely manner. If you need a religious accommodation, please email me at least 2 weeks before the date of the conflict to make alternative arrangements.

Mental Health and Wellness

The University of Colorado Boulder is committed to the well-being of all students. If you are struggling with personal stressors, mental health or substance use concerns that are impacting academic or daily life, please contact Counseling and Psychiatric Services (CAPS) located in C4C or call (303) 492-2277, 24/7.

Free and unlimited telehealth is also available through Academic Live Care. The Academic Live Care site also provides information about additional wellness services on campus that are available to students.

Disclaimer

This syllabus is subject to change. Any modifications will be announced in class and posted on the course website.