Class Syllabus EC327 - Intro to Game Theory

CRN: 21759 Winter 2024

Date modified: February 8, 2024

Lecture time:4:00-5:20 pmclassroom:McKenzie 240CInstructor:Dante Yasuiemail:dyasui@uoregon.eduoffice:PLC 523office hours:Tuesday: 2-3pm, Friday: 1:30-2:30pm

Grader: Evan Hart

1 Course Policies

Course Pages:

Canvas: The Canvas page will contain the most up to date versions of announcements, due dates, lectures, etc.

Office Hours:

In Person: Tuesday: 2-3pm, Friday: 1:30-2:30 in PLC 523.

Online: Email me ahead of time so I know to set up a meeting link.

Course Modality:

This is an in-person class that will meet at the times specified in the UO Class Schedule. The Attendance policy below specifies the manner in which absences are managed. Please consult with the Accessible Education Center if you need accommodations related to a disability.

Objectives:

This course aims to help you to understand the fundamental principles of game theory, become familiar with basic classes of games, practice the mathematical skills to solve for the appropriate equilibria, apply game theoretic models to real-world interactions, and recognize limitations and critiques of the theory.

Textbook:

Games of Strategy by Avinash Dixit, Susan Skeath, and David McAdams, published by W.W. Norton. E-book versions are available from the publisher.

Additional Sources:

I also like Joseph E. Harrington, *Games Strategies and Decision Making*, Worth Publishers, 2008. Giacomo Bonanno, *Game Theory*, 2nd edition, 2018: is a free open source game theory textbook available here; https://faculty.econ.ucdavis.edu/faculty/bonanno/PDF/GT_book.pdf, but it is a lot more technical and math heavy.

Any other readings I assign (for example articles, news stories, etc.) will be posted on Canvas.

Prerequisites:

One of EC101 or EC201.

Attendance:

Regular attendance is essential and expected. Of course, exceptional circumstances may prevent you from attending class, but be aware that you are responsible for catching up on any missed content in class. Slides and other materials will be posted on Canvas

2 Grading Policy:

Activities	10%
Homework	20%
Midterm Exam	30%
Final Exam	40%

2.1 In-class Activities

During class times, we will sometimes play games where you will be asked to participate, record outcomes, and connect them to the class concepts. These will be graded by completion.

2.2 Homework

Several homework assignments will be posted on Canvas throughout the term. You will post your submissions as a single pdf file including all work. You will be graded according to the rubric posted on Canvas. Answer keys will be automatically posted on the due date in Canvas, so no late submissions will be accepted. However, your lowest grade will be dropped at the end of the term.

2.3 Exams:

There will be one midterm in week 5 and one final exam administered at the time specified in the Registrar's final exam schedule. If a student cannot attend the midterm due to extreme circumstances, a re-weighting of the student's grade towards the final may be considered. To qualify for re-weighting, a request must be submitted to the instructor no later than two days after the midterm.

3 Tentative Schedule

Week	Chapter(s)	Topic
1	1, 2, & 3	Intro & General Principles
2	3 & 4	Sequential & Simultaneous Move Games
3	5	Simultaneous Games: Continuous Strategies, Discussion, and Evidence
4	6	Combining Sequential and Simulatneous Moves
5	6	Review & Midterm
6	7	Mixed Strategies
7	8	Strategic Moves
8	9	Uncertainty and Information
9	10	Repeated Games
10	10	Review
F	Exam	See Duckweb for date and time

¹see Canvas for the most up-to-date schedule

4 University Policies

University Policies:² The University of Oregon and I are dedicated to fostering inclusive learning environments for all students and welcomes students with disabilities into all of the University's educational programs. The Accessible Education Center (AEC) assists students with disabilities in reducing campus-wide and classroom-related barriers. If you have or think you have a disability (https://aec.uoregon.edu/content/what-disability) and experience academic barriers, please contact the AEC to discuss appropriate accommodations or support. Visit 360 Oregon Hall or https://aec.uoregon.edu/ for more information. You can contact AEC at 541-346-1155 or via email at uoaec@uoregon.edu.

Your Wellbeing and Basic Needs: Students often feel overwhelmed or stressed, experience anxiety or depression, struggle with relationships, or just need help navigating challenges in their life. If you're facing such challenges, you don't need to handle them on your own—there's help and support on campus. As your instructor if I believe you may need additional support, I will express my concerns, the reasons for them, and refer you to resources that might be helpful. It is not my intention to know the details of what might be bothering you, but simply to let you know I care and that help is available. Getting help is a courageous thing to do—for yourself and those you care about.

University Health Services helps students cope with difficult emotions and life stressors. If you need general resources on coping with stress or want to talk with another student who has been in the same place as you, visit the Duck Nest (located in the EMU on the ground floor) and get help from one of the specially trained Peer Wellness Advocates.

University Counseling Services (UCS) has a team of dedicated staff members to support you with your concerns, many of whom can provide identity-based support. All clinical services are free and confidential. Find out more at https://counseling.uoregon.edu or by calling 541-346-3227 (anytime UCS is closed, the After-Hours Support and Crisis Line is available by calling this same number).

Being able to meet your basic needs is foundational to your success as a student at the University of Oregon. If you are having difficulty affording food, don't have a stable, safe place to live, or are struggling to meet another need, visit the UO Basic Needs Resource page for information on how to get support. They have information food, housing, healthcare, childcare, transportation, technology, finances (including emergency funds), and legal support.

If your need is urgent, please contact the Care and Advocacy Program by calling 541-346-3216, filling out the Community Care and Support form, or by scheduling an appointment with an advocate.

Mandatory Reporter Status: I am an assisting employee³. For information about my reporting obligations as an employee, please see Employee Reporting Obligations on the Office of Investigations and Civil Rights Compliance (OICRC) website. Students experiencing sex or gender-based discrimination, harassment or violence should call the 24-7 hotline 541-346-SAFE [7244] or visit safe.uoregon.edu for help. Students experiencing all forms of prohibited discrimination or harassment may contact the Dean of Students Office at 5411-346-3216 or the non-confidential Title IX Coordinator/OICRC at 541-346-3123. Additional resources are available at UO's How to Get Support webpage.

Academic Integrity: The University Student Conduct Code (available on the Student Conduct Code and Procedures webpage) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowl-

²All of the following is from UO TEP's starter syllabus

³This means I only report any information shared to me to the administration if you request I do so.

edge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at the Libraries' Citation and Plagiarism page.
Accommodations for Religious Observances: The University of Oregon respects the right of all students to observe their religious holidays, and will make reasonable accommodations, upon request, for these observances. If you need to be absent from a class period this term because of a religious obligation or observance, please fill out the Student Religious Accommodation Request fillable PDF form and send it to me within the first weeks of the course so we can make arrangements in advance.
Acknowledge and Sign
I agree that I have read and understand the syllabus and that all work submitted will be my own or

Date

appropriately cited/attributed.

Sign Here