**GAMES AND STRATEGY (201)**

Instructor: Yusuf Emre Akgündüz (FASS Room 2017)

Class hours: Monday and Wednesday

Recitation: Friday

Office hours: Set up meetings online through Zoom on Wednesdays

Location: FASS1096 and Zoom

Exams: Midterm During class on in Week 7, Final during the final week.

**Course Content**

This is an introductory course in game theory. Game theory analyzes strategy situations systematically. We will introduce basic concepts and tools used in game theory and show the applications to various interactive circumstances. By the end, students are expected to be able to construct basic models and understand applications of game theory both in private sector and public policy settings.

Since game theory concepts build on each other, I strongly suggest that you try to attend as many of the lectures and recitations as possible. Not attending earlier lectures may make it difficult to follow later ones.

As a general principle, the online content for this course can be found at SUCourse. Every comment related to the course is welcome. Where necessary, I have the discretion to change the course content, requirements and policies.

**Important:** The longer timeslot will be held physically in class and you can follow it over Zoom as well. The short timeslot will be held online over Zoom. Depending on the course of the pandemic, some classes may be moved to online only, which I will announce in advance through SUCOURSE. In general, please keep good track of SUCOURSE announcement for this semester!

**Textbook:**

*Games of Strategy by Avinash Dixit and Susan Skeath, David Reiley (any edition)*

Lecture notes may cover topics beyond the scope of the textbook. All lecture slides will be made available and students will be responsible for all material covered in class.

**Grading:**

Mid-term (30%)

Final exam (40%)

Take-home problem sets (20%)

Quizzes (10%)

There will be two quizzes during class, mostly to keep track of attendance. Both the mid-term and the final will be held physically for everyone. If you miss an exam, you will need to provide me with a note from SU Health Center.

Grades will be categorical according to the SU standard scale (see below).

**Course Outline:**

The chapters below provide a rough outline of the course. Not all chapters will receive the same degree of attention. I will update the syllabus if any additional chapters are covered in the lectures. You will only be responsible for chapters covered in class.

**Part 1: Intro**

Chapters 1-2. Some terminology and basic concepts.

**Part 2: Sequential and simultaneous games**

Chapter 3. Constructing game trees and understanding interaction in sequential games.

Chapters 4-5. Simultaneous move games with pure strategies

Chapter 7. Simultaneous move games with mixed strategies.

Chapter 6. Combining simultaneous and mixed strategy games.

Chapter 8. Sequential games with mixed strategies.

**Part 3: Broad classes of games**

Chapter 9. Games with uncertainty.

Chapter 10. Strategic moves.

Chapter 11. Prisoner’s dilemma and repeated games.

Chapter 12. Collective action games

**Part 4: Applications (Potential)**

Chapter 14. Brikmanship.

Chapter 15. Auctions.

Chapter 17. Bargaining.

**Grade Categories**

|  |  |
| --- | --- |
| A | 85 |
| A- | 80 |
| B+ | 75 |
| B | 70 |
| B- | 65 |
| C+ | 60 |
| C | 55 |
| C- | 50 |
| D+ | 45 |
| D | 40 |
| F | 0 |