**GAMES AND STRATEGY (201)**

Instructor: Yusuf Emre Akgündüz (FASS Room 2017)

Class hours: Tuesday 10:40 am - 12:30 pm, Thursday 10:40 am - 11:30 am

Recitation: Friday 14:40 – 15:30

Office hours: Set up meetings online through Zoom on Wednesdays

Location: FASS L045

Exams: Midterm During class on Tuesday (Week 7) Final during class on Tuesday (Week 14)

**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:** I would prefer to hold the classes physically at the allocated room. However, depending on the course of the pandemic, some classes may be 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 (30%)

Take-home problem sets (20%)

Quizzes (20%)

There will be multiple quizzes during class and I will use your top 3-4 performances as your quiz grade. The final exam covers the entire course, but focuses on the latter half. Since it is not yet clear whether we will be able to have physical examinations, the exams are planned to be online during class time in weeks 7 and 14.

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. Voting

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 |