Instructor: Levent Koçkesen, CASE 253, 338-1354, E-mail: lkockesen@ku.edu.tr
TA: Uluç Şengil: usengil@ku.edu.tr
Time/Location: TueThu 14:30-15:45  16:00-17:15  ENG 120
Discussion Sessions: Fri 11:30-12:45  14:30-15:45  SCI Z07
Textbook: The course will be based on lecture notes that are posted at:
However, you may find the following texts useful as supplementary material:

• Martin J. Osborne, An Introduction to Game Theory, Oxford University Press, 2003

You should be able to find copies at Pandora Bookstore as well as on Library Reserve.

Description: Game theory analyzes situations in which two or more individuals (or firms, political parties, countries) interact in a strategic manner. It has proved useful in helping us better understand situations involving conflict and/or cooperation and has found many applications in economics, political science, law, and biology. Among those applications are firm competition in markets, technological races, auctions, arms-races among countries, and party competition for votes. This course aims to provide a systematic introduction to the tools of game theory and some of its applications.

Prerequisites: First and foremost, students should be comfortable with mathematical notation and formal reasoning. Also, some background in intermediate microeconomics, calculus, and basic probability theory is required. I urge those without this background to contact me before deciding to enroll in the course.

Grading: Grading will be based upon two exams and class participation with the following weights:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Exam I</td>
<td>45%</td>
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<tr>
<td>Exam II</td>
<td>45%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>10%</td>
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Exams will be in-class and closed book. Exam I will cover approximately the first half, and Exam II the second half of the course.

For each regular exam, a make-up exam will be granted only once and only in case of properly documented emergencies, such as a medical report from the school medical center. Students who need to take the make-up need to inform me by email as early as possible but no later than the day after the regular exam. The make-up exam will be offered around a week after the regular exam only to those students who meet the aforementioned conditions.

Class participation will be graded according to participation in the following activities:

1. In-class games and experiments
2. Short quizzes

Problem Sets and Discussion Sessions: There are several problem sets and past exams posted on the course website. Problem sets will not be graded but should prove useful in preparing for the exams. The best way to keep up with the class and prepare for the exams is to work on the problem sets and the past exams regularly. You may discuss problem sets and other questions in weekly discussion sessions to be conducted by your TA.
Outline of the Course

1. Strategic Form Games
2. Dominant Strategy Equilibrium and Iterated Elimination of Dominated Actions
3. Nash Equilibrium: Theory
4. Nash Equilibrium: Applications
   (a) Auctions
   (b) Buyer-Seller Games
   (c) Market Competition
   (d) Electoral Competition
5. Mixed Strategy Equilibrium
6. Games with Incomplete Information and Bayesian Equilibrium
7. Auctions
8. Extensive Form Games: Theory
   (a) Perfect Information Games and Backward Induction Equilibrium
   (b) Imperfect Information Games and Subgame Perfect Equilibrium
9. Extensive Form Games: Applications
   (a) Stackelberg Duopoly
   (b) Bargaining
   (c) Repeated Games
10. Extensive Form Games with Incomplete Information
    (a) Perfect Bayesian Equilibrium
    (b) Sequential Equilibrium
    (c) Signaling Games

Honor Code: Honesty and trust are important to all of us as individuals. Students and faculty adhere to the principles of academic honesty at Koç University. Academic dishonesty includes:

Cheating: Cheating includes, but is not limited to, copying from a classmate or providing answers or information, either written or oral to others, in an examination or in the preparation of material subject to academic evaluation.

Plagiarism: Plagiarism is borrowing or using someone else’s writing or ideas without giving written acknowledgment to the author. This includes copying from a fellow student’s paper or from a text or internet site without properly citing the source.

Multiple Submissions: Multiple submission includes resubmission of the same work previously used in another course or project, without the permission of the instructor for both courses.

Collusion and Impersonating: Collusion is getting unauthorized help from another person such as having someone else write one’s assignment, or having someone else take an exam with false identification. Impersonating a student in an examination is also considered a grave act of dishonesty.

Fabrication: Fabrication includes, but is not limited to, falsification or invention of any information or citation in an academic exercise.

Facilitating Academic Dishonesty: Facilitating academic dishonesty includes, but is not limited to, knowingly helping another student commit an act of academic misconduct (e.g., cheating, fabrication, plagiarism, multiple submissions).

These are serious offenses resulting in an F grade and disciplinary action.