*1. Purpose of Course

This course is an introduction to game theory. Game theory is a way of thinking about strategic situations, which is when the outcome of one’s choice depends not only on given parameters of the environment (prices, production function, demand curve), but also on choices of other agents. In this course we will introduce tools that will help us to approach and analyze strategic situations. We will apply these tools to many different settings including economics, political science, sociology and even evolutionary biology. The course will emphasize examples. We will also play several games in class.

Having some background in micro-economics (introductory level would suffice) is highly recommended. We will use basic calculus in this course (mostly, one variable). We will also refer to ideas like probability and expectation.

*2. Materials and Reference


A number such as 2.1 will refer to chapter 2 section 1 of a corresponding book

*3. Evaluation (%) 

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<tr>
<th>Attendance</th>
<th>Assignment</th>
<th>Midterm</th>
<th>Final</th>
<th>Additional Evaluation</th>
<th>Attitude</th>
<th>Other</th>
<th>합계</th>
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<tbody>
<tr>
<td>40%</td>
<td>60%</td>
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Attendance Policy: Students who are absent for over 1/3 of the class will receive a grade of ‘F’ or ‘U’ for the course. (Exceptions can be made when the cause of absence is deemed unavoidable by the course instructor.)

Other Remarks: Problem Sets will be given on a regular basis. Their purpose is to provide practice for students and they will not be used for the final grade calculations.
Normal Form Games

Session 1 (Jul. 3, Mon) – Introduction: Prisoners dilemma, coordination. Dominance and Iterative Deletion \((W: 1 \text{ and } 6; D: 1.1-1.3, 2.3-2.4)\);

Session 2 (Jul. 4, Tue) – Applications of Dominance Argument. Best Response and Rationalizability \((W: 6 \text{ and } 7; D: 2.3, 3-4, \text{ except } 3.1.2)\);

Session 3 (Jul. 5, Wed) – Introduction to Nash Equilibrium. Examples. Applications. \((W: 9 \text{ and } 10; D: 5 \text{ and } 7)\);

Session 4 (Jul. 6, Thu) – Nash Equilibrium continued. Applications: Oligopoly, Voting, Locations \((W: 9 \text{ and } 10; D: 6 \text{ and } 7)\);

Session 5 (Jul. 10, Mon) – Mixed Strategies: Theory and Applications \((W: 11; D: 8 \text{ and } 9)\);

Session 6 (Jul. 11, Tue) – Evolution and Game Theory \((Extra \ reading \ will \ be \ posted \ online)\)

Session 7 (Jul. 12, Wed) – Midterm Exam

Extensive Form Games

Session 8 (Jul. 13, Thu) – Introduction to Sequential Games, Backward Induction; Commitment; First- and Second-mover advantage \((W: 2; D: 11)\);

Session 9 (Jul. 17, Mon) – Backward Induction continued; Zermelo theorem; Credibility; Reputation; Duels \((W: 21; D: 11 \text{ and } 12)\);

Session 10 (Jul. 18, Tue) – Ultimatums, Bargaining, Introduction to Imperfect Information; Information sets; Subgame Perfection; Strategies \((W: 15, 16 \text{ and } 19; D: 13)\);

Session 11 (Jul. 19, Wed) – Subgame Perfect Equilibrium (SPE); Applications of SPE; Direct and Strategic Effects; Wars of Attrition \((W: 16; D: 13)\);

Session 12 (Jul. 20, Thu) – Repeated Games \((W: 22 \text{ and } 23; D: 14-18, \text{ but be selective})\);

Incomplete Information

Session 13 (Jul. 24, Mon) – Incomplete Information; Bayesian Nash Equilibrium \((W: 26)\);

Session 14 (Jul. 25, Tue) – Applications: Auctions, Signaling \((W: 27 \text{ and } 29)\);

Session 15 (Jul. 26, Wed) – Final Exam

5. Additional Notes for Students

6. Assistance for Students with

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<tr>
<th>Class</th>
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<tbody>
<tr>
<td>○ Visual Impairment: Make textbooks(digital textbook, braille textbook, enlarged textbook etc.), Allow note takers</td>
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<tr>
<td>○ Physical Disability: Make textbooks (digital textbook), Allow note takers and assistants</td>
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<tr>
<td>○ Hearing Impairment: Allow note takers and translators, Allow lecture recording</td>
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</table>
| Disabilities | ○ Health Impairment: Excuse absence due to health problems, Allow note takers  
○ Learning Disability: Allow note takers  
○ Intellectual Disability / Autism Spectrum Disorder: Allow note takers and mentors |
| Assignment & Evaluation | ○ Visual Impairment / Physical Disability / Hearing Impairment / Health Impairment / Learning Disability: Extend assignment deadlines, Offer alternate assignment submission and response method, Extend testing period, Offer alternate testing method, Offer different testing room  
○ Intellectual Disability / Autism Spectrum Disorder: Offer individualized assignments and alternative evaluations |
| Others | Students who take this course can get appropriate level of support service including the support listed above depending on the students’ individual characteristics and needs through consultation with professors and the Support Center for Students with Disabilities. If you have any questions concerning support service for students with disabilities you can contact Professor ***(Contact Information) or Support Center for Students with Disabilities (02-880-8787). |