

## Game Theory

Course Name	Course type (credit/hours)	전선(3/3)			Course code	K122
	Target students Division/major/grade	Economics/Junior			Opening semester	2019 1ST SEMESTER
	Class time and classroom	화B(울356) 목A(울356)(울356)			English Grade	A(100%English)
Reference to this course	Prerequisite courses					
	Related basic courses	경제수학(Mathematics in Economic Analysis)				
	Recommanded concurrent courses					
	Related advanced courses	행동경제학(Behavioral Economics), 산업조직론(Industrial Organization)				
Instructor	Name (title/division)		김성환 (교수/사회과학대학 경제학과)			
	Office Room Number	울곡관 417	Office phone Number	2782	e-mail	
	Office hours	Mon,Th: 2-3pm		Homepage address		
Teaching Assistant	Name (title/division)					
	Office Room Number		Office phone Number		e-mail	

### 1. Introduction

Our every-day decision making as an individual and its consequence oftentimes depends on the decisions of others. Such interdependent relationships cause various problems that cannot be easily explained without the support of game theory, which provides tools developed to analyze strategies of rational individuals and corresponding equilibria. For students of economics, it is essential to understand basic ideas and approaches of game theory as it is widely used these days to address the issues in many different fields of economics. In fact, its application is not constrained to economics and becomes more and more popular in the study of social science in general.

### 2. Course Objectives

This course will introduce game-theoretic reasoning and show its usefulness in understanding social phenomena as well as economic issues.

The students will be able to explain economic/social phenomena and suggest solutions to the related problems based on the ideas of game theory, after completing the course.

### 3. Class types and activities

The lectures of traditional style will be the primary way of teaching and learning. But, activity in the class such as asking questions and participating in discussions will also be necessary and encouraged. All the lectures will be delivered in English.

### 4. Teaching Method

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> lecture                          | <input checked="" type="checkbox"/> discussion and debate   |
| <input type="checkbox"/> team project(presentation and case studies) | <input type="checkbox"/> experiments(role-playing,etc)      |
| <input type="checkbox"/> designing and production                    | <input type="checkbox"/> on-site learning(on-site training) |
| <input type="checkbox"/> others                                      |   |

### 5. Support Systems in Use

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> e-class              | <input type="checkbox"/> automatic recording system                                   | <input type="checkbox"/> web-based assignment |
| <input type="checkbox"/> cyber lecture                   | <input type="checkbox"/> blended learning(combination of online and offline teaching) |   |
| <input type="checkbox"/> class behavior analyzing system | <input type="checkbox"/> others   |   |

### 6. Teaching Tools

- |  |   |
|--|---|
| <input type="checkbox"/> PBL(Problem Based Learning) | <input type="checkbox"/> CBL(Case Based Learning)                     |
| <input type="checkbox"/> TBL(Team Based Learning)    | <input checked="" type="checkbox"/> others ( lecture and discussion ) |

### 7. Knowledge and ability required for taking this course

Will to deal with a little of algebra and mathematics necessary for understanding game theory. Ability to communicate in English.

## 8. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance			Course grade may be affected if attendance rate is poor.
midterm exam	1	40%	
final exam	1	40%	
quiz			
presentation			
discussion		10%	class participation and attitude
homework	4	10%	
etc			
study hours			

## 9. Textbook and supplementary material

Main/Sub	Title (Web-site)	Writer	Publisher	Publication year
Ref.	Games, Strategies, and Decision Making	Joseph Harrington	Worth	2009
Main	강의노트			

## 10. Class system and Class shedule

We will basically follow the structure of of Harrinton(2009)'s book, covering Nash equilibria, sequential game, private information game and so on.
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## < Class Schedule >

\* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
1	Strategic Reasoning	E	김성환			
2	Building a Model	E	김성환			
3	Eliminating the Impossible	E	김성환			
4	Nash Equilibria 1	E	김성환			
5	Nash Equilibria 2	E	김성환			

## < Class Schedule >

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Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
6	Nash Equilibria 3	E	김성환			
7	Review	E	김성환			
8	Midterm Exam	E	김성환			
9	Randomized Strategies	E	김성환			
10	Sequential Games 1	E	김성환			
11	Sequential Games 2	E	김성환			
12	Private Information 1	E	김성환			
13	Private Information 2	E	김성환			
14	Signaling Game	E	김성환			
15	Review	E	김성환			
16	Final Exam	E	김성환			

## 11. Other items of notification

I used to use "Games, Strategies, and Decision Making (by Joseph Harrington)" as textbook. But, to my knowledge, the book is not imported and distributed directly by any Korean publisher any more. So we will go without textbook this semester, counting on the lecture notes (ppts) I will provide on eclass. I plan also to provide you with some printed readings when necessary.