

Economics of Strategy and Information

(전략과 정보의 경제학)

Spring 2020

1. Basic Course Information

- Course number: ECON 324
- The class meets at 9:00-10:15 on Tuesdays and Thursdays.
- Classroom: Political Science and Economics Building #202

2. Instructor Information

- Instructor: Professor Wonki Cho (Department of Economics; chowonki@korea.ac.kr)
- Homepage: <https://sites.google.com/site/wonkijocho/>
- Office: Political Science and Economics Building (정경관) #330
- Office hours: 10:15-11:45 on Fridays or by appointment
- Teaching Assistant: Sei Hui Kim (김세희); milo95@naver.com

3. Course Overview

- **Description:** This course aims to provide basic tools in game theory and information economics at a rigorous level. It also covers some applications.
- **Prerequisites**
 - ECON173 (Mathematics for Economists, 경제수학)
 - Calculus (differentiation and integration): Students with a weak mathematical background should review basic concepts in calculus.
- **Course format**
 - About 90% of each class will be devoted to lecture and the remaining 10% to Q&A sessions and discussions.
 - Lectures focus on understanding basic concepts and solving problems. Asking questions is a critical part of learning and students are strongly encouraged to do so in class.
 - The course is delivered in English.

4. Evaluation

- **Evaluation scheme:**
Mid-term exam (35%), final exam (40%), assignments (20%), participation (5%)
- **Exam dates are fixed as follows.**
 - **Mid-term exam: 9:00-11:30 a.m. on May 9, 2020**
 - **Final exam: 9:00-11:30 a.m. on June 27, 2020**
- **Requirements**
 - Check the course webpage on Blackboard on a regular basis and ensure that your email address is up to date in the system. All announcements and course material are posted there.
 - Take two exams.
 - Problem sets will be assigned roughly every three weeks, with two problem sets assigned before the mid-term exam and another two after the exam. The lecture notes uploaded to Blackboard after each class may contain further assignments. Late submissions of assignments will not be accepted.

- “Participation” is not the same as just attending classes. It means participating in discussions and asking questions in class and office hours.
- **Grades**
 - Except in the case of wrongly entered grades, final letter grades will not be changed for any reason. In particular, a C will not be downgraded to an F.
 - Failure to take the mid-term or final exam automatically results in an F.

5. Materials and References

- **Main textbooks**
 - P. K. Dutta, 1999, *Strategies and Games*, MIT Press.
 - I. Macho-Stadler and J. D. Perez-Castrillo, 1997, *An Introduction to the Economics of Information* (2nd edition), Oxford University Press.
- **Other references**
 - 왕규호 · 조인구, 2004, *게임이론*, 박영사
 - 김영세, 2002, *게임이론* (3판), 박영사

6. Topics To Be Covered

- Introduction: Modeling strategic interactions
- Strategic-form games
 - Basic concepts: strategy (pure and mixed), payoff, rationality and common knowledge of rationality
 - Dominance, best response, Nash equilibrium
 - Application: Cournot duopoly, tragedy of commons
- Extensive-form games
 - Basic concepts: game tree, subgame, strategy (pure and mixed)
 - Nash equilibrium, subgame perfect Nash equilibrium
 - Repeated game
 - Application: bargaining, entry game
- Games of incomplete information
 - Basic concepts: type, prior distribution, Bayes’ rule
 - Bayesian Nash equilibrium
 - Application: Signaling value of education
- Information economics
 - Moral hazard
 - Adverse selection
 - Mechanism design

7. Classroom Decorum

- Use of mobile devices such as cell phones and laptops is restricted.
- Do not eat or sleep in class.