



ECON 039: Game Theory

Term: 2020 Winter Session

Instructor: Staff

Language of Instruction: English

Classroom: TBA

Office Hours: TBA

Class Sessions Per Week: 6

Total Weeks: 4

Total Class Sessions: 25

Class Session Length (minutes): 145

Credit Hours: 4

Course Description:

Game theory is widely used in the fields of economics, political science, psychology and biology. As an introduction, this course studies the theories and concepts of game theory, mainly from an economic perspective. We will discuss topics such as rationalizability, Nash equilibrium, mixed strategies, sub-game perfection, repeated games and Bayesian equilibrium. Students will learn to apply what they have learned in class to analyze the conflict and cooperation involved in decision-making processes between people and explain why an individual or a group makes a particular decision in real world scenarios.

Prerequisite: Intermediate Microeconomics and Calculus II

Course Materials:

Textbook:

An Introduction to Game Theory by Martin J. Osborne (Author) 2012

Course Format and Requirements:

This course has 25 class sessions in total. Each class session is 145 minutes in length. Please do not use electronic devices such as phones, iPads, computers, etc. during lectures.

**Attendance:**

Attendance will not be recorded but for successful completion of this course, it is expected that you attend all lectures. Exam questions are similar to the in-class examples we will discuss in scope and difficulty. Frequent absences may as a result impact your overall performance.

Grading Scale:**A+: 98%-100%****A: 93%-97%****A-: 90%-92%****B+: 88%-89%****B: 83%-87%****B-: 80%-82%****C+: 78%-79%****C: 73%-77%****C-: 70%-72%****D+: 68%-69%****D: 63%-67%****D-: 60%-62%****F: Below 60%****Course Assignments:****Homework:**

Homework problem sets will be assigned on a weekly basis. They will test your understanding of the theories and concepts covered in class. It is important that you attempt these problem sets to familiarize with the theories and concepts and apply them in real world scenarios. Late work will not be accepted.

Quizzes:

A total of five quizzes will be administered throughout the session. The quiz questions will be similar to homework problem sets and in-class examples in difficulty. There will be no make-up quizzes.

Exams:



There will be one midterm exam and one final exam, which are scheduled to take place at the start of Week 3 and at the end of Week 4 respectively. Both exams are cumulative, closed-book exams.

Course Assessment:

Homework	15%
Quizzes	20%
Midterm Exam	30%
Final Exam	35%
Total	100%

Course Schedule:

Week	Topics	Activities
1	Go through syllabus Course overview Introduction to Game Theory What Is Game Theory? Dominant Strategies Rationalizability General Equilibrium Theory	Homework Quiz 1
2	Games with Perfect Information Nash Equilibrium Two-player Games Mixed Strategy Equilibrium N-person Games The Prisoner's Dilemma	Homework Quiz 2 Quiz 3



3	Extensive Form Backward Induction Sub-game Perfection Commitment Bargaining Games with Imperfect Information	Midterm Quiz 4
4	Repeated Games Bayesian Equilibrium Signaling Sequential Equilibrium Course summary Review for final	Homework Quiz 5 Final Exam

Academic Integrity:

Students are encouraged to study together, and to discuss lecture topics with one another, but all other work should be completed independently.

Students are expected to adhere to the standards of academic honesty and integrity that are described in the Shanghai Normal University's *Academic Conduct Code*. Any work suspected of violating the standards of the *Academic Conduct Code* will be reported to the Dean's Office. Penalties for violating the *Academic Conduct Code* may include dismissal from the program. All students have an individual responsibility to know and understand the provisions of the *Academic Conduct Code*.

Special Needs or Assistance:

Please contact the Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material. Our goal is to help you learn, not to penalize you for issues which mask your learning.

