Syllabus

Course title	GAME THEORY AND ASYMMETRIC INFORMATION
Instructor	Marc Kaufmann
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Credits	2 US credits (4 ECTS credits)
Term	Winter 2024-2025
Course level	Masters
Prerequisites	Master Level Course in Microeconomic Theory

1. COURSE DESCRIPTION

Content.

This course is an introduction to game theory and will cover topics such as dominance, Nash equilibrium, subgame perfect equilibrium, asymmetric information, adverse selection and apply them to various examples from economics and politics.

2. LEARNING OUTCOMES

Key outcomes. By the end of the course, students will

- Be familiar with the extensive and normal forms of games
- Know and be able to apply the concepts of Nash equilibrium and subgame perfection
- Understand the basics of static and finite dynamic games of complete and incomplete information
- Understand basic models to capture various types of asymmetric information
- Learn techniques to solve these models
- Spot when asymmetric information is an important aspect of an economic situation

3. READING LIST

The course build on the book "An Introduction to Game Theory" by Martin Osborne, henceforth [IGT]. We cover only a selection of chapters, and only a selection of the covered chapters.

4. TEACHING METHOD AND LEARNING ACTIVITIES

The course will involve a mix of lectures and in-class activities, with a focus on lectures. Specifically, learning objectives will be achieved through

- 80% lectures
- 20% in-class experiments and questions

Additionally, the TA – Dilnovoz Abdurazzakova – will lead two sections (dates to be confirmed) covering the problem set questions.

5. ASSESSMENT

Grading: The final score for Part II will be out of 100 points (you can earn 10 bonus points):

- Exam in the final class (~100 minutes): 70 points
- In-class experiments (participation): 10 points
- Quizzes: 30 points
    ◦ There will be 2 or 3 quizzes

While there will be 2 problem sets, they will not be graded.

Date of Exam: Final Day of Class, 100 minutes in-class exam.

6. TECHNICAL REQUIREMENTS

You will need some device with a web browser to participate in the in-class experiments.

7. TOPIC OUTLINE AND SCHEDULE (TENTATIVE)

Lecture	Topic
1	Strategic form games, pure strategies, dominance
2	Iterated deletion of dominated strategies, best response
3	Nash equilibrium and Illustrations: Cournot and Bertrand competition
4	Mixed strategies
5	Applications of mixed strategy Nash equilibrium
6	(Baby) Auctions
7	Extensive games with perfect information
8	Repeated Prisoner's Dilemma
9	Extensive games with imperfect information
10	
11	Buffer