Game Theory

01-00: Orientation

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Orientation: Course Goals

- Analyze strategic interaction under **complete information**, in both static (normal-form) and dynamic (extensive-form) games.
- Describe **incomplete information** games and reason about beliefs in static and dynamic settings.
- Relate equilibrium ideas (Nash, subgame-perfect, Bayesian) to vivid stories from technology, policy, and daily life.

What You Can Expect

- Each week features a real incident—price wars, climate talks, viral marketing—that turns abstract theory into a memorable case study.
- Short live polls and predictions keep you active; we compare your intuition with classic results.

Learning Tips

- Walk through the cycle: **intuition** → **formal model** → **example** → **counterexample** → **limits** → **next topic**.
- Keep formulas **minimal** and map each symbol to its meaning carefully.
- Practice **sketching tables and diagrams** so you can explain ideas visually and connect them to stories you already know.

Suggested Resources

- Primary textbook: an introductory game theory text (Chapters 1–3 recommended).
- Open materials: publicly available slides and videos (links will be shared in class).

Common Misconceptions

- "I am bad at math" → focus on **matching intuition with notation**; examples guide you.
- "There is too much to memorize" → **drawing and reading** help retention more than rote memory.
- "Game theory is boring" → **predict first**, then check the answer—there is always a twist hidden in the examples.

About This Class

- For BCSE students
- **Time:** 13:00 - 16:00 every Tuesday
- **Prerequisites:** No advanced mathematics is required. A light review of calculus helps, but curiosity matters more.

Course Materials

Recommended Textbooks:

- Robert Gibbons: *Game Theory for Applied Economists*
- David Kreps: *Notes On The Theory Of Choice*

All lecture materials will be available on the course website: https://sites.google.com/vju.ac.vn/bcse-gt/home

Class Structure

Course Composition:

- 14 lectures, including a final review session.
- One 90-minute midterm exam, followed by a review.

Typical Class Format:

- Two 60-minute lecture sessions with a 10-minute break.
- A 40-minute group exercise session (10 min for work, 30 min for presentations).

Assessment Breakdown

- **Final Exam (60%)** — main check of individual understanding.
- **Midterm Exam (10%)** — a short written test around Week 7.
- **Group Homework (20%)** — approximately three team-based assignments.
- **Attendance and Participation (10%)** — mini-quizzes and in-class contributions.

Submission platform and deadlines will be announced closer to each assignment.

Communication Channels

- In class: ask anytime during discussions or right after the session.
- After class: Email (subject: `[GameTheory] StudentID-Name-Topic`).
- You can find my email address and phone number on the Google site.

Tools & Collaboration

For your information, I use VS Code and Codex (and Gemini CLI) to create these slides, and I will regularly share behind-the-scenes snippets of how the models help us explore new cases.

I'm always eager to learn from you all. If you have any interesting tools or workflows, or if you find a striking example from tech news or gaming culture, please share it—the next lecture might feature it.

Generative AI Policy

You are welcome to use Generative AI for your assignments. However, please adhere to the following guidelines:

- AI is **not permitted** during midterm and final exams.
- While you may use AI for exercises, you must be able to explain the solutions independently.
- Submitting identical answers to other students is considered academic misconduct.