

Content Summary: Introduction to Game Theory

(May 2026)

There are a number of things I hope you have learned. In general, I hope you got an idea of (i) what games are, (ii) how to solve them, and (iii) what their applications are. More specifically, I hope the course allows you to talk about the following topics (★ basic, † advanced; these would only be bonus questions).

Part 1 – What are games?

- ★ What is game theory about? What are some examples of games? (**Remark 1.1**)
- ★ What are the elements of a game (what do you need to specify when defining a game)? (**Remark 1.4**)

Part 2 – Dominated actions

- ★ What is a normal-form game? Can you give examples? (**Remark 1.11, Example 1.12, In-Class Exercise 1.13**)
- ★ What does it mean for an action to be dominated? (**Remark 1.14, Definition 1.15, Remark 1.16**)
- † What is (the idea behind) iterated elimination of dominated strategies? (**Remarks 1.17,1.18**)

Part 3 – Nash equilibrium

- ★ What is (the idea behind) a Nash equilibrium? (**Example 1.23, Definition 1.24**)
- ★ What are mixed strategies? Why might they be useful for a player? Can you give an example where mixed strategies are useful? (**Remark 1.26**)
- † To which extent does the Nash equilibrium do a good job in predicting human behavior? (**Remark 1.29**)

Part 4 – Evolution

- † What is evolutionary game theory about?
- † Why is there such a seemingly strong link between evolutionary game theory and classical game theory? After all, one requires rationality (even *common knowledge of rationality*), whereas the other does not; why?

General topics with no objective answer

- ★ What is your opinion of game theory as a science? What do you make out of its assumptions?
- ★ Give a 2-minute sales pitch why classical game theory is great.
- ★ Give a 2-minute sales pitch why classical game theory is flawed.
- ★ Which idea in game theory did you find most interesting / surprising / insightful?
- ★ What do you think: if the tape of game theory was replayed, would we arrive at the same concepts? That is, which concepts are most natural / self-evident to you? Which of them look artificial?