

Strategic Thinking: Theory and Practice

Taught by Ole Jann, PhD
as part of the program
International Economics and Finance (IEF)

Summary

We will study theoretical tools and practical applications to sharpen our strategic thinking. Starting from examples in news stories, books or movies, we will introduce and apply concepts from game theory and information economics and discuss their real-life relevance. Examples provided by the students are an integral part of the course.

Detailed description, goals and prerequisites

Each part of the course will start from concrete practical problems that involve strategic thinking. These are usually interdependent decision situations in which all participants try to understand, analyze and predict the motivations and choices of the other participants.

Topics that come up in the course are, for example: Threats and promises (and how to make them believable), bank runs, credible communication, how to establish of trust among business partners, how to get customers to reveal their willingness to pay, and how to get an auction right. We will work with examples from news stories, movies, books, philosophical problems, everyday situations, and others.

For any such situation, we will practice doing four things: (i) Breaking it down into its essential parts, (ii) understanding the motivations and choices of those involved, (iii) gaining insights into the strategic structure of the situation and optimal decision making of the participants, and (iv) learning to recognize patterns that connect seemingly different situations with similar underlying structures.

To do so, we will introduce and discuss concepts from game theory and economic theory. Some prior experience with these ideas (for example from an undergraduate game theory course) can be helpful but is not a requirement. Theoretical concepts are introduced in such a way that the familiarity with microeconomic reasoning that is gained from introductory undergraduate microeconomics courses is enough to follow the course. This is not a course in game theory, but it can be complementary to such a course for students who have either taken it or plan on taking it.

A central part of the course will be student participation - both in class discussion, but also by trying to apply the ideas and concepts of the course to situations that they know from their own experience (or from the news, from movies, literature etc).

Scheduled class hours:

The course consists of two 90-minute class sessions per week. Sessions will include lectures and practice classes.

Materials:

The course follows no fixed textbook. We will work with original research, newspapers articles and other sources. Where we will work with game theoretical concepts, the course materials will refer to appropriate chapters in textbooks like:

Robert Gibbons: *A Primer in Game Theory* (Pearson 1992)

Martin Osborne: *An Introduction to Game Theory* (Oxford 2003)

Further readings can be found in the class schedule below and will be made available through the course website.

Lecturer

Ole Jann, PhD, is assistant professor of economics at CERGE-EI. After studying at Humboldt-University Berlin (BSc) and the University of Copenhagen (MSc and PhD), he was Postdoctoral Prize Research Fellow at Nuffield College and the University of Oxford. He has visited Bocconi University (Italy) and Northwestern University (USA). He has taught game theory at the universities of Copenhagen and Oxford.

Grading

Grades are based on the following components:

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| (1) Attendance and participation | 15% |
| (2) Take-home assignments during the course | 40% |
| (3) Final exam (open book) | 45% |

(1) Attendance and participation: Students are expected to attend class, to participate in class discussions and to come up with examples that can be used in class.

(2) Take-home assignments during the course: There are two take-home assignments (each counting for 20% of the final grade) that ask the student to work on prepared problems with theoretical and practical aspects.

(3) Final exam: The final exam covers the contents of all lectures and practice sessions. It is a written exam in which the students are allowed to use all written course materials.

At the end of the term, cumulative points will be converted into grades by the following scheme:

Letter Grade	Percentage	Description
A	93-100	Outstanding work
A-	90-92	
B+	87-89	Good work
B	83-86	
B-	80-82	
C+	77-79	Acceptable Work
C	73-76	
C-	70-72	
D+	67-69	Work that is significantly below average
D	63-66	
D-	60-62	
F	0-59	Work that does not meet the minimum standards for passing the course

Academic Integrity Policy

Plagiarism and other forms of academic dishonesty are not tolerated.

UPCES/IEF Non-Discrimination/Harassment Policy

The UPCES/IEF program in Prague promotes a diverse learning environment where the dignity, worth, and differences of each individual are valued and respected. Discrimination and harassment, whether based on a person's race, gender, sexual orientation, color, religion, national origin, age, disability, or other legally protected characteristic, are repugnant and completely inconsistent with our objectives. Retaliation against individuals for raising good faith claims of harassment and/or discrimination is prohibited.

UPCES/IEF Diversity Policy

UPCES/IEF fully embraces diversity and strives to create a safe and welcoming environment for students from all backgrounds. Prague is a wonderfully diverse community and UPCES/IEF is no different. All students should feel at home while studying abroad and UPCES/IEF will do its utmost to make sure that becomes a reality. Although unique challenges may arise, we believe that students from all walks of life will encounter wonderful opportunities for enrichment as they explore a new culture while studying abroad.

Schedule of classes

We will introduce the concepts and ideas in class sessions; for each week there are background readings on the theoretical tools and further background.

Week 1: Orientation week

Introductory lectures, language lessons and Prague tours.

Week 2: Understanding strategic situations

- Gibbons ch 1, Osborne ch 2 and 3.
- Schelling, T. (2010). Game theory: a practitioner's approach. *Economics & Philosophy*, 26(1), 27-46.

Week 3: Beliefs and self-fulfilling expectations

- Schelling, T. (1960). *The Strategy of Conflict*. Harvard University Press. (Selected parts.)
- Schelling, T. (1978). *Micromotives and Macrobehavior*. WW Norton. (Selected parts.)
- Background: Diamond, D. W., & Dybvig, P. H. (1983). Bank runs, deposit insurance, and liquidity. *Journal of Political Economy*, 91(3), 401-419.

Week 4: Understanding sequential choices

- Gibbons ch 2.1 and 2.2, Osborne ch 5-7

Week 5: Cooperation and trust through repetition

- Gibbons ch 2.3 and Osborne ch 14
- Background: Friedman, J. W. (1971). A non-cooperative equilibrium for supergames. *Review of Economic Studies*, 38(1), 1-12.

Week 6: Commitment

- Schelling, T. (1960). *The Strategy of Conflict*. Harvard University Press. (Selected parts.)

- Schelling, T. (1966). *Arms and Influence*. Yale University Press. (Selected parts.)

Week 7: Strategic situations and information

- Gibbons ch 3.1, Osborne ch 9
- Background: Shannon, C. (1948) "A Mathematical Theory of Communication", *Bell System Technical Journal*, Vol. 27, pp. 379–423.

Week 8: How to be believed -- the theory of signals

- Gibbons ch 4.2, Osborne ch 10.5-10.7
- Spence, M. (1973). Job Market Signaling. *Quarterly Journal of Economics*, 87(3), 355-374.
- Gambetta, D. (2011). *Codes of the Underworld*. Princeton University Press. (Selected parts.)

Week 9: How to be believed -- the theory of communication

- Gibbons ch 4.3A, Osborne ch 10.8
- Farrell, J., & Rabin, M. (1996). Cheap talk. *Journal of Economic Perspectives*, 10(3), 103-118.

Week 10: Getting others to tell the truth -- the theory of screening

- Chapter 8.1 in Jehle, G. and Reny, P (2011). *Advanced Microeconomic Theory 3rd Edition*. Prentice Hall.
- Background: Stiglitz, J. E. (1975). The theory of "screening," education, and the distribution of income. *American Economic Review*, 65(3), 283-300.

Week 11: How to reveal information through prices: Auctions

- Gibbons ch 3.2, Osborne ch 9
- Klemperer, P. (2004). *Auctions: Theory and Practice*. Princeton University Press. (Selected parts.)

Week 12: Summary and discussion

Week 13: Final exam and feedback