MICROECONOMIC FOR BUSINESS RESEARCH

Period: a.y. 2026/27 – I sem.

Instructor:

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Course description

This course introduces the fundamental tools of microeconomics for studying strategic interaction and incentive provision. Students are expected to be familiar with basic microeconomics, probability theory, calculus, and static optimization problems from the first day of class. Most of these prerequisites are covered in the Mathematics Preparatory Course and in the recommended readings and course materials shared with incoming students; **they will therefore be assumed**.

The course is largely lecture-based and is organized into three parts. The first part briefly introduces formal models and single-agent decision-makings. The second part focuses on strategic interaction and non-cooperative games. The third part analyzes the provision of incentives in settings with complete information and incomplete contracts, focusing on teams and alliances, and in settings with information asymmetries and complete contracts, addressing moral hazard and adverse selection.

A second major objective of the course is to expose doctoral students to conceptual and formal models at the intersection of strategy, applied economics, and organizational economics. Models are presented in detail, with particular emphasis on the underlying economic intuition. The course follows modern strategy frameworks that emphasize the tension between value creation and value capture. Other classical areas of research related to competition, firms' market behavior, and the sources of competitive advantage are covered in other PhD courses. This course also provides the basic tools needed for the course "41081 - Microeconomic for Business Research" taught by Prof. Fosfuri and Prof Camuffo.

Course material

The content covered in lectures, together with the slides and students' individual notes, constitutes the only required material for the exam. A list of suggested readings is provided to offer a range of perspectives and a sense of the research conducted in different areas of strategy and economics. Additional readings may be assigned during the course. Slides and readings will be made available on Blackboard. **Students are discouraged from using laptops in class.**

Tentative list of topics

Part I: Introduction to Formal Models

- Introduction to formal models: what they are, what they do, and what they do not accomplish.
- Payoffs and constraints: substantive and mathematical assumptions; exogenous parameters and endogenous variables; formulation of well-defined optimization problems; and comparative statics.
- The classical framework: utility and demand functions; cost and profit functions; competitive markets.
- An example: moving from a general unsolvable model to a restrictive solvable one.

Part II: Introduction to Strategic Interaction

- From simple decision-making to strategic thinking: game-theoretic analysis.
- Introduction to non-cooperative games: simultaneous, sequential, and repeated games.
- Two main issues: cooperative dilemmas and coordination problems.

Part III: The Provision of Incentives with Complete and Incomplete contracts

- Asset ownership, control, and the bargaining landscape.
- Value creation and value capture in alliances and teams.
- Repeated interaction under incomplete contracts.
- Contracting under hidden action.
- Contracting under hidden information.

Assessment methods

Effective class participation includes attendance, active and constructive contributions to discussion, questions, constructive comments, and a positive attitude toward learning. The evaluation is based on intermediate team assignments and a final exam. Students will be evaluated as follows:

Class participation: 10 points
Team assignments: 30 points
Final written exam: 60 points

Faculty bio

Claudio Panico received his PhD in Economics from the Toulouse School of Economics. His research interests include the economics of strategy, organizational economics, incentive theory, and, more broadly, the use of formal models in strategy. His work has been published in *Academy of Management Review*, *Organization Science*, *Strategic Management Journal*, and other international journals. He is currently working on coordination and cooperation dilemmas in teams, networks, platforms, and human-machine collaboration.

Suggested complementary readings

Intro: Formal models in strategy

- Csaszar, 2019. Certum Quod Factum: How Formal Models Contribute to the Theoretical and Empirical Robustness of Organization Theory. Journal of Management.
- Hannah-Tidhar-Eisenhardt, 2020. Analytic models in strategy, organizations, and management research: A guide for consumers. SMJ.
- Knudsen-Levinthal-Puranam, 2019. Editorial: A Model Is a Model. Strategy Science.
-Makadok, 2022. Guidance for AMR authors about making formal theory accessible. AMR.
- Moorthy, 1993. Theoretical Modeling in Marketing. The Journal of Marketing.
- Saloner, 1991. Modeling, game theory, and strategic management. SMJ.
- Wibbens-Kretschmer, 2026. The Five Essentials of a Modeling Paper. Strategy Science.

Non-cooperative games and bargaining

- Dufwenberg, 2011. Intro to Game theory. WIREs Cogni Sci, 2: 167–173.
- Gans-Ryall, 2017. Value capture theory: A strategic management review. SMJ.
- Jackson, A brief introduction to the basics of game theory. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1968579
- Osborne-Rubinstein, 1994. A course in game theory. Available at http://gametheory.tau.ac.il/arielDocs/
- Osborne-Rubinstein, 2005. Bargaining and markets (Part 1). Available at http://gametheory.tau.ac.il/arielDocs/

Complete and Incomplete Contracts

- Aghion-Tirole, 1994. On the management of innovation. Quarterly Journal of Economics, 109.
- Coase, 1937. The nature of the firm. Economica, 16.
- Gambardella-Panico-Valentini, 2015. Strategic Incentives to Human Capital. SMJ.
- Grossman-Hart, 1986. The costs and benefits of ownership: A theory of vertical and lateral integration. Journal of Political Economy 94.
- Laffont-Martimort, 2002. The Theory of Incentives. Princeton University Press.
- Lerner, 2016. Oliver Hart's Contributions to the Understanding of Strategic Alliances and Technology Licensing. Available at https://academic.oup.com/book/38703/chapter/336534283
- Panico, 2017. Strategic Interaction in Alliances. SMJ.