Information economics

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Office hours: Wednesday, after class, office C27.

Introduction to the course This course is a graduate-level introduction to information economics. Although the course is designed to be self-contained, previous exposure to the material is helpful. The background knowledge of mathematics and game theory at the level of Mathematics 1 (Lomys), Mathematics 2 (Caruso and Ceparano), and Game Theory (Bizzarri) at the Naples School of Economics is required for the course. Taking notes in class, participating actively, and working through the problem sets are essential for understanding the material.

Grading The grade is based on:

1. Exam, weighted by 2/3.

2. Problem sets, weighted by 1/3. Three problem sets will be distributed. One of your lowest scores is dropped and the remaining two are equally weighted.

Outline The course covers 3 main topics.

1. Screening (main reference: Börgers (2015), Chapter 1, 2, 5)

2. Mechanism design (main reference: Börgers (2015), Chapter 3, 6)

3. The value of information and communication.

Readings Most of the course is taught at the board. There are no required readings, but the handouts and the suggested readings serve as a complement to your notes.

For alternative exposures of screening at approximately the same level as the course, see: *Contract Theory* by Bolton and Dewatripont (2005, BD), *The Economics of Contracts* by Salanié (1997), and *Game Theory* by Fudenberg and Tirole (1991). Graduate-level textbooks in microeconomic theory typically include chapters on screening and mechanism design. I recommend: *Microeconomic Foundations II* by Kreps (2023, KR), and MWG (Mas-Colell, Whinston, and Green, 1995). *Advanced Microeconomic*

Theory by Jehle and Reny (2001) has a chapter on information economics written in game-theoretic language, which is an excellent complement to the mechanism-design–oriented treatment of screening in this course and deserves to be read carefully. *Game Theory: Analysis of Conflict* by Myerson (1991) is an excellent textbook on game theory with significant overlap of topics with this course; I recommend to read this book to every theorist.

The following readings may help you to put the material in perspective, suggested readings are marked by an asterisk.

- Screening:
    - * first chapter of *Economics Briefs: Six Big Ideas*, by The Economist, available at https://www.economist.com/sites/default/files/econbriefs.pdf;
    - * KR: chapter 17;
    - * Börgers, Chapter 1 and 2 (main reading);
    - Alternative textbook treatments: Laffont and Martimort (2002): chapter 2; KR: chapter 20; Carroll (2023).
    - Original papers: Mussa and Rosen (1978).
    - Extra reading: Rochet (1985, 1987).

- Mechanism design:
    - * Börgers, Chapter 3 (main reading)
    - Alternative textbook treatments: Jackson's notes (https://web.stanford.edu/~jacksonm/mechtheo.pdf), Relevant chapters in Roughgarden (2016).
    - Original papers: Myerson (1981), Myerson and Satterthwaite (1983), Bulow and Klemperer (1996).

- Communication:
    - Original papers: Crawford and Sobel (1982), Kamenica and Gentzkow (2011);
    - Extra reading: Weitzman (2000), Gibbons, Matouschek, and Roberts (2013), de Oliveira (2018), Lipnowski and Ravid (2020); Excerpt from Ran Spiegler's *The Curious Culture of Economic Theory*.
    - Surveys: Kamenica (2017), Hörner and Skrzypacz (2017), Kamenica (2019), Bergemann and Morris (2019).

References

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