

17C030

Digital Economy

Spring Term - 3 ECTS

Elective Course

Prof. R. Ferrer, J. Ganuza,
and A. Penta

Prerequisites to Enroll

Recommended Background: Microeconomics and/or Industrial Organization courses

Overview and Objectives

This course aims at introducing the students with the main features of the “digital economy”, as well as a number of competition and regulatory issues which relate to it. A central question throughout the different topics will be whether business practices and contracts in a “digital economy” may depart from efficient behavior, and in which cases they may be beneficial or detrimental to society. Real cases which are specific to digital markets will also be analyzed. First, students will study the economic features of platforms and two-sided markets, which frequently arise in digital sectors. Second, the course will cover applications of Information Economics to different digital sectors. In particular, the students will learn auction theory, as auctions are commonly used to sell advertising services and for e-commerce. Third, the course will cover Economics of Innovation and Intellectual Property Rights, which are a core component of the “digital economy”. Fourth, the course will cover economic research related to blockchain technology.

Course Outline

Information Economics in Digital Markets.

- Introduction to auctions.
- “Digital” auctions

Platform Competition.

- Competition & Switching Costs
- Network Externalities.
- Pricing in Two Sides Markets.

Intellectual Property Rights

- Patents, copyrights, and trademarks
- R&D races
- Empirical tools related to IP
- Litigation cases

Economics of Blockchain Technology

- How do immutable distributed databases work? What can they imply?
- Proof of work vs. Proof of stake
- Applications

17C030

Digital Economy

Spring Term - 3 ECTS

Elective Course

Prof. R. Ferrer, J. Ganuza,
and A. Penta

Required Activities

Read specific material and academic articles before coming to the lectures.

Evaluation

Exam (80%). Assignments to be determined (20%). Extra credit might be given for good class participation

Competences

- To (be able to) communicate with determination and in the English Language, the results and implications of the required analytical study using a language that the receiver can relate to.
- That students know how to apply the acquired knowledge and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.
- That the students be able to communicate their conclusions and the knowledge and the ultimate reasons that sustain them to both, specialized and non-specialized publics in a clear and unambiguous way.
- That students possess the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
- To identify and apply the insights of the theory, the models, and the analytical tools of modern economy to its global dimension.
- To understand and apply the quantitative methods used to solve complex problems of the economy.
- To evaluate, with theoretical and quantitative instruments, the complex realities of the economy to understand the way it works.

Learning Outcomes

- Recognizes the statistical, econometric and analytical instruments required for economic analysis.
- Applies analytical and quantitative tools to economic problems, formulating the suitable hypotheses and using the necessary tools.
- Analyzes complex problems.
- Uses evidence to solve new problems and develops an adequate analysis.

17C030

Digital Economy

Spring Term - 3 ECTS

Elective Course

Profs. R. Ferrer, J. Ganuza,
and A. Penta

Materials

- Textbooks

Belleflamme, Paul, and Martin Peitz. (2015) "Industrial organization: markets and strategies," Cambridge University Press.

Decarolis, F., Goldmanis, M. and A. Penta, (2018) "Recent Developments in Online Ad Auctions", in Economic Analysis of the Digital Revolution. FUNCAS. (Edited by J.J.Ganuza and G.Llobet).

Klemperer, Paul (2004) Auctions: Theory and Practice (2004). Princeton University Press.

Auction Theory. 2nd Edition (2009). Vijay Krishna. Academic Press. (this book contains a less technical intro to Auction Theory, èplus an extensive discussion of the 3G spectrum auction case study)

- Academic articles (additional related academic articles will be specified during the course)

Armstrong, M (2006), "Competition in Two-Sided Markets", RAND Journal of Economics, 37:668-691.

Decarolis, F., Goldmanis, M. and A.Penta (forthcoming) "Marketing Agencies and Collusive Bidding in Online Ad Auctions", Management Science.

Edelman, Benjamin, Michael Ostrovsky, and Michael Schwarz. 2007. "Internet Advertising and the Generalized Second-Price Auction: Selling Billions of Dollars Worth of Keywords." American Economic Review, 97(1): 242–259.

Evans, D. and R. Schmalensee (2012) "The Antitrust Analysis of Multi-Sided Platform Businesses", Working Paper, University of Chicago Law School.

Evans, D. and R. Schmalensee (2012) "Matchmakers: The New Economics of Multisided Platforms", Harvard Business Review Press.

Levin, J. Stanford University (Teaching Notes).

Menell, P.S., and Scotchmer, S.(2007) Intellectual Property Law, *Handbook of law and economics*. Elsevier. Polinsky, A. M., & Shavell, S. (Eds.).

Rochet, J-J and J. Tirole (2003) "Platform Competition in Two-Sided Markets", Journal of the European Economic Association, 1:9

Varian, Hal. 2007. "Position auctions." International Journal of Industrial Organization, 25(6): 1163–1178

- Other readings

Auction Theory. 2nd Edition (2009). Vijay Krishna. Academic Press. (this book contains a less technical intro to Auction Theory, plus an extensive discussion of the 3G spectrum auction case study)