# Intitulé du cours

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| Course title – Intitulé du cours | Topics in Applied Industrial Organization |
| Level / Semester – Niveau /semestre | M2/S2 |
| School – Composante | Ecole d'Economie de Toulouse |
| Teacher – Enseignant responsable | Renato GOMES |
| Other teacher(s) – Autre(s) enseignant(s) | David SALANT |
| Other teacher(s) – Autre(s) enseignant(s) | |
| Other teacher(s) – Autre(s) enseignant(s) | |
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| Other teacher(s) – Autre(s) enseignant(s) | |
| Lecture Hours – Volume Horaire CM | 30 |
| TA Hours – Volume horaire TD | |
| TP Hours – Volume horaire TP | |
| Course Language – Langue du cours | English |
| TA and/or TP Language – Langue des TD et/ou TP | |

**Teaching staff contacts – Coordonnées de l'équipe pédagogique :**

Renato Gomes (renato.gomes@tse-fr.eu) Office Hours: after class or by appointment
Davd Salant : In this time of COVID, office hours will likely need to be virtual. I will be available via Skype, Facetime, and Whatsapp by appointment.

**Course Objectives – Objectifs du cours :**

Ce cours comporte deux parties :

- Partie de Renato Gomes

The aim of the course is to analyze the economics of payment methods. Particular emphasis will be given to the study of payment platforms– such as those that manage payment cards (Visa, Mastercard, American Express, etc), as well as stacked platforms (such as PayPal, Apple Pay, Google Wallet, etc). The goal is to understand pricing and competitive practices in these markets, study innovation and assess the effects of regulation. The classes will combine a descriptive approach (where do these markets come from, how did they evolve, what technologies are employed?), a theoretical one (based on the "multi-sided platform" framework), as well as an empirical one (how consumers actually pay, what are the effects of regulation, how can we measure empirically the key variables of interest?). After following this course, you will be able to:

- understand the industrial organization of the modern payment industry
- understand the economics of payment systems including the role of multisided platforms and the behavioral economics of payments,
- understand the main drivers of adoption and usage of (new) payment instruments by consumers and merchants,

- discuss the impact of key innovations (FinTech, virtual currencies, blockchain, instant payments, mobile money, Google Wallet, Apple Pay) on the international payment landscape,
- assess the critical factors for effective competition policy and consumer protection.

- Partie de David Salant

  - The Course is intended largely to introduce the essential elements of auction theory and explain how they are needed to help address auction design, management and strategy in practice for those interested managing or bidding in auctions. Auctions are highly structured negotiations with a defined set of rules for offers, counter-offers, price determination and for allocations. These rigid structures mean that auctions can be analyzed by mathematical models more accurately and completely than can most other types of market transactions. This course provides a guide for modeling, analyzing, and predicting the outcomes of auctions.

  - The course starts with a review of essential elements of auction theory. In practice, auction theory will rarely provide an exact and prescriptive model that can be applied directly. On the other hand, auction theory does provide both insights and specific results that are of direct value to the practitioner. While this course might ideally provide a complete check-list for what to do to design, set up and manage an auction, or for bidders to decide how to bid, that scope is too broad to be practical.

  - Rather, the focus in the course is on principles, tools and examples that can be used to analyze auctions. This first requires some way to categorize different types of auctions. In this categorization, I also provide explain how the auction design and strategy should differ depending on the type of auction. Second, I explain the main results from game theory and the theory of auctions that can provide practical frameworks for analyzing auctions and bid strategy. Third, we will discuss a fair amount of experience from actual auctions, but also from experiments.

  - The lectures and the main text, are intended to provide a guide to the literature and toward of the application of the theory to actual auctions.

**Practical information about the sessions – Modalités pratiques de gestion du cours :**

- Partie de Renato Gomes :

We will have slides for each class, as well as references to be read before we meet.

**Grading system – Modalités d'évaluation :**

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Grading is based on student presentations to occur in our last meeting. Students will be divided in groups, which will orally describe and critically discuss applications, appeals and rulings of recent competition policy cases related to payment methods.

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The course grade will be based on a time-limited take-final (50%). The final will require an understanding of the key theoretical results presented in the lectures, as well as some supplementary readings. There will be one additional assignment" an application of the course material to an actual auction. Class participation will count up to 10% of the final grade.

**Bibliography/references – Bibliographie/références :**

- Partie de Renato Gomes

Please refer to the Outline.

- Partie de David Salant

**Primary:**

*A Primer on Auction Design, Management, and Strategy*, David Salant, MIT Press 2014.

**Supplementary**

*Auctions: Theory and Practice*, Paul Klemperer, Princeton, 2004.

*Putting Auction Theory to Work,* Paul Milgrom, Cambridge University Press, 2004.

*Auction Theory,* Vijay Krishna, Academic Press, 2010.

- Supplementary Readings as assigned.

**Session planning – Planification des séances**

- Partie de Renato Gomes

**Lecture 1**

1. A brief History of payment methods (coins, checks, bills, etc)

2. Card payments: Evolution and current trends

3. 3. How consumers pay? An empirical assessment

***References:***

• Evans and Schmalensee (2005): "Paying with Plastic." 2nd ed., MIT Press – chapters 3, 4, 5 and 7

• Koulayev, Rysman, Schuh, and Stavins (2016): "Explaining adoption and use of payment instruments by US consumers." Rand Journal of Economics, 47(2): pp. 293-325.

• Stavins (2017): "How Do Consumers Make Their Payment Choices?" WP Boston Fed

• Greene and Stavins (2018): "The 2016 and 2017 Surveys of Consumer Payment Choice: Summary Results." WP Boston Fed

**Lecture 2**

1. Introduction to the economics of platforms

2. Business models and main players in card payment platforms

3. Competition policy issues in the payment industry

***References:***

• Evans and Schmalensee (2005): "Paying with Plastic." 2nd ed., MIT Press – chapters 6, 8, 9, 10 and 11
• Rochet, J.-C., and J. Tirole (2002): "Cooperation among competitors: Some Economics of payment card associations." Rand Journal of Economics, 33(4): 549-570.
• Rochet, J.-C., and J. Tirole (2011): "Must-take Cards: Merchant Discounts and Avoided Costs." Journal of the European Economic Association, Vol. 9(3), 462-495.

**Lecture 3**

1. The optimal regulation of payment cards
2. The actual regulation of payment cards: an international perspective
3. The effects of regulation: An empirical assessment

***References:***

• Wang, Z. (2016): "Price cap regulation in a two-sided market: Intended and unintended consequences." International Journal of Industrial Organization, Vol. 45, pp. 28-37.
• Bolt, W., N. Jonker, and C. van Renselaar (2010): "Incentives at the counter: An empirical analysis of surcharging card payments and payment behaviour in the Netherlands." Journal of Banking & Finance, Vol. 34, pp. 1738-1744.
• Carbó Valverde, S., S. Chakravorti, and F. Fernández (2016): "The role if interchange fees in two-sided markets: An empirical investigation on payment cards." Review of Economics and Statistics, Vol. 98(2), pp. 367-381.
• Gomes, R., and J. Tirole (2018): "Missed Sales and the Pricing of Ancillary Goods." Quarterly Journal of Economics, Vol. 133, pp. 2097-2169.
• Bourguignon, H., R. Gomes and and J. Tirole (2019): "Shrouded Transaction Costs: Must-Take Cards, Discounts and Surcharges." International Journal of Industrial Organization, Vol. 63, pp. 99-144.

**Lecture 4**

1. Stacked platforms (PayPal, Apple Pay, Google Wallet, etc)
2. Crypto-currencies and Blockchain
3. The market for consumer credit

***References:***

• Böhme, R. N. Christin, B. Edelman, and T. Moore (2015): "Bitcoin: Economics, Technology, and Governance." Journal of Economic Perspectives, 29(2), 213-238.
• Fernández-Villlaverde (2018): "Cryptocurrencies:A Crash Course in Digital

Monetary Economics." Australian Economic Review, 51(4), 514-526.
• Ausubel, L. (1991): "The Failure of Competition in the Credit Card Market." American Economic Review, 81(1), 50-81.
• Ponce, A., E. Seira, and G. Zamarripa (2017): "Borrowing on the Wrong Credit Card? Evidence from Mexico." American Economic Review, 107(4), 1335-1361.

**Lecture 5**

1. Competition policy cases and the current regulatory debate

2. Consumer protection policy

***References:***
• On European legislation on payment methods:
http://ec.europa.eu/competition/sectors/financial_services/sepa_en.html
• On the court case against Amex in the US:
https://law.justia.com/cases/federal/district-courts/new-york/nyedce/1:2010cv04496/309491/619/
• On the Apple Pay controversy in Australia:
https://www.accc.gov.au/public-registers/authorisations-and-notificationsregisters/authorisations-register/bendigo-and-adelaide-bank-ors-authorisationa91546-a91547
• On transparency and consumer behavior regarding payments in the EU:
http://ec.europa.eu/competition/sectors/financial_services/mif_final_report_en.pdf

- Partie de David Salant

The course follows the order in the main text. But, the text is only a Primer (Webster's definition of a Primer: "a small introductory book on a subject.")

**Session 1:** Introduction to auction design, management and strategy

- Outline of course
- Review of auction formats. Salant, Chapters 1
- Review game theory essential. Salant, Chapter 2

**Session 2:** Revenue equivalence and optimal auctions

- Revenue equivalence theorem. Klemperer (2004), Chapter 1, Salant, Chapters 3
- Optimal auctions. Salant Chapter 4. Myerson, Myerson, Roger B. "Optimal auction design." *Mathematics of operations research* 6.1 (1981): 58-73.
- Vickrey auctions. Green, Jerry, and Jean-Jacques Laffont. "Characterization of satisfactory mechanisms for the revelation of preferences for public goods."*Econometrica: Journal of the Econometric Society* (1977): 427-438. Milgrom,(2004), Chapter 2. Salant, Chapter 4

**Session 3:** Asymmetric Information and Winner's curse

- Asymmetric information: Wilson, Robert B. "Competitive bidding with asymmetric information." *Management Science* 13.11 (1967): 816-820. Wilson, Robert B.

"Communications to the editor—competitive bidding with disparate information." *Management science* 15.7 (1969): 446-452.

- Winner's curse. Milgrom, Paul R., and Robert J. Weber. "A theory of auctions and competitive bidding." *Econometrica: Journal of the Econometric Society* (1982): 1089-1122

**Session 4:** Multi-object auctions

- Supply function/demand function auctions, Klemperer, Paul D., and Margaret A. Meyer. "Supply function equilibria in oligopoly under uncertainty." *Econometrica: Journal of the Econometric Society* (1989): 1243-1277. Wilson, Robert. "Auctions of shares." *The Quarterly Journal of Economics* (1979): 675-689
- Sequential auctions and substitutes. Salant, Chapter 6. Milgrom, Chapter 3. Salant, David J., and Luís Cabral. "Sequential auctions and auction revenue." *Economics Letters* 176 (2019): 1-4.
- Sequential auctions and complements. Salant, Chapter 7.

**Session 5:** Simultaneous auctions

- SMR and clock auctions Salant, Chapter 9
- Combinatorial auctions. Salant Chapter 10. Core selecting auctions Day, Robert, and Paul Milgrom. "Core-selecting package auctions." *international Journal of game Theory* 36.3-4 (2008): 393-407.
- Varian, Hal R. "Position auctions." *international Journal of industrial Organization* 25.6 (2007): 1163-1178.

**Distance learning – *Enseignement à distance :***

*Distance learning can be provided when necessary by implementing :*

- *Interactive virtual classrooms*
- *Recorded lectures (videos)*
- *MCQ tests and other online exercises / assignments*
- *Remote (online) tutorials (classes)*
- *Chatrooms*

*En cas de nécessité, un enseignement à distance sera assuré en mobilisant:*

- *Classe en ligne interactive*
- *Vidéo enregistrée de la présentation du matériel pédagogique*
- *QCM et exercices en ligne*
- *TP/TD à distance*
- *Forum...*