

## Advanced Microeconomics

Course title	Advanced Microeconomics
Level / Semester	M1 / 2nd semester
Credits	
Director of Studies	Takuro Yamashita, Alex Smolin
Other teaching staff	
Teaching Hours CM	30
Teaching Hours TD	0
Teaching Hours TP	0
Course Language	English
Language for TD and/or TP	

### 1. Instructor

Takuro Yamashita, [takuro.yamashita@tse-fr.eu](mailto:takuro.yamashita@tse-fr.eu)

Office hour: By appointment

### 2. Course description

This course is to introduce some topics in game theory and its applications, especially about a class of games with incomplete information, and its application to auction, signalling, etc. The target students are those who are in M1 and want to do research in economic theory and its applications.

### 3. Objective

The goal is to make students familiar with some topics in games with incomplete information so that they can independently digest/evaluate academic papers in those or relevant topics.

### 4. Prerequisite

Although there is no formal prerequisite, I would assume some basic mathematical knowledge (algebra, analysis, probability, etc). Also, basic knowledge of game/contract/mechanism design theory would be helpful.

## 5. Evaluation

Based on a few problem sets and a final exam. At most 30% of the grade is by the problem sets, and the rest is by the final exam. Also, too many late arrivals and non-attendance may affect the grade.

## 6. References

Fudenberg and Tirole (1991), Game Theory, MIT Press.

Tadelis (2013), Game Theory: An Introduction, Princeton University Press

## 7. Course outline:

- (1) (Static) games with incomplete information, Bayesian equilibrium.
- (2) Applications: Adverse selection in trading, Auction, Information aggregation in market
- (3) Sequential rationality with incomplete information, Perfect Bayesian equilibrium.
- (4) Applications: Signaling, Cheap-talk, Bargaining, Exit
- (5) Applications: Signaling games, Cheap-talk, Bargaining, Exit games.