Game Theory
--
Administration

Patrick Loiseau
EURECOM
Fall 2016

Administration

- Course's webpage: http://www.eurecom.fr/~loiseau/GameTheory/index.html
- Instructor: Patrick Loiseau (patrick.loiseau@eurecom.fr)
  - Office 427
  - No office hours: take appointment by email
- Co-instructor (exercises): Paul de Kerret (Paul.DeKerret@eurecom.fr)
- Classes on Wednesday afternoons. Each class:
  - ~2 hours lectures + ~1 hour exercises
- On week 7: Repetition
  - Correction of exam from last year
  - End of exercises (if needed)
  - Questions
- Grade: 100% final (final in February with other exams)
  - No document allowed except one sheet of paper with only handwritten notes, A4 size

Main references

- Online courses
  - B. Polak (Yale), http://oyc.yale.edu/economics/econ-159
  - M. O. Jackson (Stanford), K. Leyton-Brown (British Columbia), Y. Shoham (Stanford), http://game-theory-class.org/game-theory-I.html
- Textbooks
  - K. Leyton-Brown and Y. Shoham. "Essentials of Game Theory." Morgan Claypool, 2008.
  - M. J. Osborne and A. Rubinstein. "A course in game theory." MIT Press, 1994. http://www.economics.utoronto.ca/osborne/cgt/
- Additional references
  - D. Fudenberg and J. Tirole. "Game Theory." MIT Press, 1991.
  - R. Myerson. "Game Theory; Analysis of Conflicts." Harvard University Press, 1997.
  - R. Gibbons. "Game Theory for Applied Economists." Princeton University Press 1992.
  - N. Nisam, T. Roughgarden, E. Tardos and V. Vazirani (Eds). "Algorithmic Game Theory", CUP 2007. http://www.cambridge.org/journals/nisan/downloads/Nisan_Non-printable.pdf

Game theory course

- Wednesday afternoon, first 7 weeks of the semester
- Program: introduction to game theory basics, with some illustrations
  - Strategic form games
  - Extensive form and repeated games
  - Equilibrium concepts: Nash, subgame perfect, ESS, etc.
  - Illustrations in simple examples from economics, political sciences, social sciences, etc.
- Goal: give you enough knowledge to use game theory in any application

Network economics course

- Same time, last 7 weeks of the semester
- Game theory course is a mandatory pre-requisite for network economics course
- But you can take game theory course only
- Program of NetEcon: applications of game theory in network economics problems
  - Pricing of communication services
  - Incentives in online systems, reputation systems
  - Auctions and applications
  - Economics of security and privacy
- Research oriented, significant mathematical content
  - Project on research article
- But also one lecture on practical software aspects from SAP expert
  - Project on pricing simulation with SAP software BRIM
  - (pending)