

Syllabus - Market design

Room 170 (except for March 12 – room 356)

Hour: 18h:20-21h:10

Somouaoga Bonkougou

This is a 5 seminars course on **Market Design**. We will cover the theory of matching markets and discrete resource allocation with an emphasis on their applications to real-world markets. These are familiar markets such as labor markets, student placement to public schools and kidney exchange programs.

There is no formal requirement for this course. In particular, there is no grading. For a background reading, I recommend the following book.

A. Roth and M. Sotomayor, *Two-Sided Matching*, Cambridge Univ. Press, 1990.

Here is the provisional schedule:

March 4, 2019, Introduction & Two-sided matching theory

References:

- Gale, David, and Shapley, Lloyd, (1962) “College Admissions and the Stability of Marriage,” *American Mathematical Monthly* 69:9-15.
- Roth, Alvin E., (2008) “Deferred Acceptance Algorithms: History, Theory, Practice, and Open Questions,” *International Journal of Game Theory* 36:537-569.
- Roth, Alvin E., and Sotomayor, Marilda, (1990) “Two-Sided Matching: A Study in Game-Theoretic Modeling and Analysis,” *Econometric Society Monograph Series*, Cambridge University Press. Chapters 1,2,4, 5.

March 6, 2019, Housing market & House allocation

References:

- Ma, Jipeng, (1994) “Strategy-Proofness and the Strict Core in a Market with Indivisibilities,” *International Journal of Game Theory* 23:75-83.
- Moulin, Hervé, (1995) “Cooperative Microeconomics: A Game-Theoretic Introduction,” Princeton University Press, Chapter 3.
- Roth, Alvin E., and Postlewaite, Andrew, (1977) “Weak versus strong domination in a market with indivisible goods,” *Journal of Mathematical Economics* 4:131-137.
- Roth, Alvin E., (1982) “Incentive compatibility in a market with indivisibilities”, *Economics Letters* 9:127-132.
- Shapley, Lloyd, and Herbert Scarf (1974), “On cores and indivisibility,” *Journal of Mathematical Economics* 1:23-28.
- Svensson, Lars-Gunnar (1999), “Strategyproof Allocation of Indivisible Goods,” *Social Choice and Welfare* 16:557-567.

March 12, 2019, School Choice: basic theory

References:

- Abdulkadiroğlu, Atila, and Sönmez, Tayfun (2003), “School Choice: A Mechanism Design Approach,” *American Economic Review*, 93:729-747.
- Michel Balinski, and Sönmez, Tayfun (1999) “A Tale of Two Mechanisms: Student Placement,” *Journal of Economic Theory* 84:73-94.
- Sönmez, Tayfun, (1997) “Manipulation via Capacities in Two-Sided Matching Markets,” *Journal of Economic Theory* 77:197-204.
- Ergin, Haluk, (2002) “Efficient Resource Allocation on the Basis of Priorities,” *Econometrica*, 70:2489-2497.
- Ergin, Haluk, and Tayfun Sonmez (2006) “Games of School Choice under the Boston Mechanism,” *Journal of Public Economics* 90:215-237.
- Kesten, Onur, (2010) “School choice with consent,” *Quarterly Journal of Economics* 125:1297-1348.

March 13, 2019, School Choice: recent development

References:

- Pathak, Parag, and Tayfun Sönmez, (2008) “Leveling the Playing Field: Sincere and Sophisticated Players in the Boston Mechanism,” *American Economic Review* 98:1636-1652

- Pathak, Parag, and Sönmez, Tayfun, (2013) “School Admissions Reform in Chicago and England: Comparing Mechanisms by Their Vulnerability to Manipulation,” *American Economic Review* 103:80-106.
- Erdil, Aytok, and Haluk, Ergin, (2008) “What’s the Matter with Tie-Braking? Improving Efficiency in School Choice,” *American Economic Review* 98:669-689.
- Abdulkadiroğlu, Atila, Che, Yeon-Koo, and Yasuda, Yosuke, (2011) “Resolving Conflicting Preferences in School Choice: The “Boston Mechanism” Reconsidered,” *American Economic Review* 101:399–410.
- Abdulkadiroğlu, Atila, Che, Yeon-Koo, and Yasuda, Yosuke, (2015) “Expanding ‘Choice’ in School Choice,” *American Economic Journal: Microeconomics* 7:1–42.
- Chen, Yan, and Kesten, Onur, (2017) “College and High School Admissions Reforms in China: A Theoretical Analysis,” *Journal of Political Economy* 125:99-139.

March 15, 2019, Kidney exchange

References:

- Alvin E. Roth, Tayfun Sönmez and M. Utku Ünver (2003) “Kidney Exchange” *Quarterly Journal of Economics*, 119:457-488.
- Roth, Alvin E., Sönmez, Tayfun and Ünver, M. Utku, (2005) “Pairwise Kidney Exchange,” *Journal of Economic Theory* 125:151–188.
- Alvin E. Roth, Tayfun Sonmez and Utku Unver (2007), “Efficient Kidney Exchange: Coincidence of Wants in Markets with Compatibility-Based Preferences,” *American Economic Review*, 97:828-851.