

GAME THEORY:^{*} SYLLABUS

Instructor: Xiang Sun[†]

Updated: 21:52, January 15, 2014

Prerequisite: Calculus, Probability, Intermediate Microeconomics

Modular credit: 3 modular credits

Modular number: 1400036

Instructor: 孙祥

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- Office: Room A501-2, Liangsheng Building
- Telephone: +86 027 6875 5072

Time: Monday, 14:05--14:50, 14:55--15:40, 15:45--16:30

Venue: 教五楼 103 教五楼 111

Module website: <http://www.xiangsun.org/teaching>; unfortunately it is blocked by GFW

Office hours: By appointment

Teaching assistants:

- 陈亮恒; Mobile: +86 182 0713 1508; E-mail: lianghengchen@163.com
- 李小刚; Mobile: +86 150 7105 1554; E-mail: xiaogang.li2013@gmail.com

Textbook: [OR] Martin J. Osborne and Ariel Rubinstein, *A Course in Game Theory*, MIT Press, 1994.

Electronic version is available at [Osborne's homepage](#) or [Rubinstein's homepage](#). Latest version is on September 24, 2012.

Language: Lectures are in English and Chinese. Lecture notes, homework sets, and exams are in English.

^{*}Wuhan University, Economics and Management School, Academic year 2013--2014, Semester 1.

[†]E-mail: xiangsun.econ@gmail.com. Suggestion and comments are always welcome.

Supplementary readings:

- Robert J. Aumann, *Lectures on Game Theory*, Westview Press, 1989.
- * Drew Fudenberg and Jean Tirole, *Game Theory*, MIT Press, 1991.
- * Robert Gibbons, *Game Theory for Applied Economists*, Princeton University Press, 1992.
- Matthew O. Jackson, *Social and Economic Networks*, Princeton University Press, 2010.
- * Geoffrey A. Jehle and Philip J. Reny, *Advanced Microeconomic Theory* (3rd Edition), Prentice Hall, 2011.
- Vijay Krishna, *Auction Theory* (2nd edition), Academic Press, 2010.
- Harold Kuhn, *Lectures on Theory of Games*, Princeton University Press, 2003.
- * Michael Maschler, Eilon Solan, and Shmuel Zamir, *Game Theory*, Cambridge University Press, 2013.
- Andreu Mas-Colell, Michael D. Whinston, and Jerry R. Green, *Microeconomic Theory*, Oxford University Press, 1995.
- * Roger Myerson, *Game Theory: Analysis of Conflict*, Harvard University Press, 1997.
- Martin J. Osborne and Ariel Rubinstein, *Bargaining and Markets*, Academic Press, 1990.
- Alvin E. Roth and Marilda Sotomayor, *Two-Sided Matching: A Study in Game-Theoretic Modeling and Analysis*, Cambridge University Press, 1992.
- Thomas C. Schelling, *The Strategy of Conflict*, Harvard University Press, 1981.
- John von Neumann and Oskar Morgenstern, *Theory of Games and Economic Behavior* (3rd edition), Princeton University Press, 1953.

Grading:

- Five homework sets: 25% (group working, each group consists of 3--5 students)
 - Homework 1 (6%): for lectures 2, 3 and 4, due September 30, 2013
 - Homework 2 (4%): for lectures 5, 6 and 7, due October 21, 2013
 - Homework 3 (10%): for lectures 8, 9, 11 and 12, due December 2, 2013
 - Homework 4 (5%): for lectures 1--15, due December 13, 2013
- Closed-book quiz: 10%
 - Date: November 4, 2013, Monday
 - Time: 14:05--16:30
 - Venue: 计科楼 202
 - Scope: Lectures 1--7
 - Each student should bring the student card
 - Each student can bring one A4-size two-sided helpsheet
 - Absent from quiz: Valid reason is required; otherwise 0 mark
 - Cheating = 0 mark
- Take-home mid-term test: 15% (group working, each group consists of 3--5 students)
 - Due 23:59, November 17, 2013
 - Submit to my staff mailbox: 11-13
 - Scope: Lectures 1--7
- Closed-book final examination: 50%
 - Date: December 23, 2013, Monday

- Time: 14:00--16:30
- Venue: 1 区教三楼 3-001
- Scope: Lectures 1--16
- Each student should bring the student card
- Each student can bring one A4-size two-sided helpsheet
- Absent = 0 mark
- Cheating = 0 mark

Time table:

#	Date	Chapters [OR]	Topics	Remarks
1	Sep. 2	1	Introduction	
2	Sep. 9	2.1--2.4	Strategic games	
3	Sep. 16	2.5--2.6	Strategic games with incomplete information	
4	Sep. 23	3.1--3.3	Mixed strategy Nash equilibrium, correlated equilibrium	
5	Sep. 30	4	Rationalizability	Due HW 1
6	Oct. 12	5.1--5.3	Knowledge model	
7	Oct. 14	5.4--5.5	Interactive epistemology	
8	Oct. 21	6	Extensive games	Due HW 2
9	Oct. 28	7	Bargaining games	
10	Nov. 4		Quiz	
11	Nov. 11	8	Repeated games	Mid-term test
12	Nov. 18	11--12	Extensive games with imperfect information	
13	Nov. 25		Social choice theory	
14	Dec. 2	10.1--10.4	Implementation theory	Due HW 3
15	Dec. 9	13--15	Coalitional games	
16	Dec. 16		Overview, consultation	Due HW 4
17	Dec. 23		Final examination	
18	Dec. 30			

Some useful web sites:

- <http://www.gametheorysociety.org>
- <http://www.gametheory.net>