

Course ID Number: ADC6410

Course Title: Applied Game Theory

No. of Credits: 2

Graduate School of International Relations
International University of Japan

Term: Spring 2012

Timetable: 4th and 5th periods on Thursday

Instructor: Shinichi Watanabe

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Office: 320

Phone: 417

Course Introduction

This course aims at providing students with the opportunity to learn the basic language of game theory in view of its application to the analysis of the problems of conflict and cooperation in various fields of studies, including politics, economics and management.

The course covers the basic concepts and techniques of the game theory. But it does so in the manner most elementary in terms of mathematics. Elementary knowledge of linear and quadratic functions will be sufficient. Also it does not require prior knowledge in disciplines such as politics, economics, or management.

Syllabus of Applied Game Theory Watanabe Shinichi 2012 Spring

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TEXTBOOKS

(DS) Dixit, A. & Skeath, S. (2009): Games of Strategy, 3rd ed. Norton

(B) Binmore, K. (2007): Games Theory, A very short introduction. Oxford

Week	Topic	Chapter of the Texts
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April 5

Week 1.1	Introduction	Ch.1 (B), Ch.2 (DS)
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Week 1.2	Simultaneous-move games with pure strategies	Ch.1 (B), Ch.4 (DS)
	Experiment 1: the prisoners' dilemma game	

April 12

Week 2.1	Simultaneous-move games with pure strategies	Ch.1 (B), Ch.4 (DS)
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Week 2.2	Mixed strategies for zero-sum games	Ch.2 (B), Ch.7 (DS)
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April 19

Week 3	Games with sequential moves	Ch.3 (B), Ch.3 (DS)
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Experiment 2: the ultimatum game, the centipede game

April 26

Week 4.1	Information	Ch.6, 9 (DS), Ch.6 (B)
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Week 4.2	Relationships between two forms of games	Ch.6 (DS)
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May 3

Week 5	National Holiday, No Class	
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May 10

Week 6.1 Mid-term exam

Week 6.2 Repeated PD games Ch.11 (DS), Ch.5 (B)

May 17

Week 7.1 Repeated PD games Ch.11 (DS), Ch.5, 4 (B)

Week 7.2 Evolutionary games Ch.8 (B), Ch.13 (DS)

May 24

Week 8 Bargaining Ch.9 (B), Ch.18 (DS),

May 31

Week 9 Global public goods Ch.12 (DS)

June 7

Week 10 Course Evaluation (14:40-15:00): In-Class Final Exam (15:00-17:50)

Final grade will be based on class participation (including a few homework) (10%), mid-term exam (30%) and final exam (60%). All exams are in-class, closed-books and closed-notes.

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Office hour: Thursday 16:00-18:00 or by appointment