

**THE UNIVERSITY OF HONG KONG
FACULTY OF BUSINESS AND ECONOMICS
School of Economics and Finance**

ECON0106/2214 Games and Decisions

GENERAL INFORMATION

Instructor: Stephen Ching

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Office: KK1013

Phone: 2857 8504

Consultation times: 16:30-17:20 (Tuesday) and 13:30-14:20 (Friday)

Lecture: Semester 1, 13:30-15:20 (Tuesday) and 14:30-15:20 (Friday) in MWT5

Tutor: Zhang Yunchou Andrew

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Office: KK1026

Consultation times: TBC

Pre-requisites: ECON1001/1210 Introductory Microeconomics

Mutually exclusive: STRA3709 Applications of Strategic Thinking in Business

Course Website: <http://moodle.hku.hk/course/view.php?id=48536>

COURSE DESCRIPTION

The first part of the course starts with sequential games and introduces the concept of subgame perfect equilibrium for solving sequential games. Then it introduces Nash equilibria through a series of concepts: dominant strategy, successive elimination of dominated strategies, and the minimax approach for simultaneous games. It also discusses the limitations of Nash equilibria and offers rationalizability as an alternative equilibrium concept. This forms the basic theory of the course, which is used to analyze repeated games and collective-action games in the second part of the course. Additionally, new solution (evolutionary stability) and equilibrium concepts (perfect Bayesian equilibrium) are introduced to deal with applications that involve imperfect rationality or imperfect information. Strategic moves and mechanism design are potential optional topics of the course.

COURSE OBJECTIVES

1. To introduce game theory at the undergraduate level
2. To help students appreciate how various equilibrium concepts in game theory are related
3. To illustrate how to apply game theory in different contexts

COURSE LEARNING OUTCOMES

Course Learning Outcomes	Aligned Faculty Goals
CLO1. Formulate strategic problems as sequential and/or simultaneous games	Goal 1, 2
CLO2. Understand various equilibrium concepts in game theory and how they are related	Goal 2

CLO3. Apply game theory in specific contexts	Goal 2, 3
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COURSE TEACHING AND LEARNING ACTIVITIES			
Course Teaching and Learning Activities		Expected contact hour	Study Load (% of study)
T&L1. Lecture		36 hours	30%
T&L2. Tutorial		12 hours	10%
T&L3. Term paper and exercise		36 hours	30%
T&L4. Self study		36 hours	30%
Total		120 hours	100%
Assessment Methods	Brief Description	Weight	Aligned Course Learning Outcomes
A1. Tutorial Participation	Small-class tutorial is designed to encourage students to participate and learn in an interactive environment	10%	CLO1, CLO2
A2. Mid-Term Examination	Mid-term examination covers the first part of the course	20%	CLO1, CLO2
A3. Individual Term Paper	Come up with your own topic and write an application of game theory covered in this course	20%	CLO1, CLO2, CLO3
A4. Final Examination	Final examination is a comprehensive examination focusing on the second part of the course	50%	CLO1, CLO2
Total		100%	

STANDARDS FOR ASSESSMENT	
Course Grade Descriptors	
A+, A, A-	Strong evidence of superb ability to fulfill the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesize
B+, B, B-	Strong evidence of the ability to fulfill the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesize
C+, C, C-	Evidence of adequate ability to fulfill the intended learning outcomes of the course at low levels of learning such as describe and apply but not at high levels of learning such as evaluate, and synthesize
D+, D	Evidence of basic familiarity with the subject
F	Little evidence of basic familiarity with the subject
Assessment Rubrics for Tutorial Participation, Mid-Term Examination, Individual Term Paper, and Final Examination are the same as in the Course Grade Descriptors.	

COURSE CONTENT AND TENTATIVE TEACHING SCHEDULE		
Week	Course Content	Textbook
Part I Basic Theory		
1	Sequential Games	Chapter 3
2-3	Simultaneous Games: Pure Strategies	Chapters 4, 5
4-5	Simultaneous Games: Mixed Strategies	Chapter 7
6	Sequential-Simultaneous Games	Chapter 6
Reading Week		
Part II Extensions		
7	Prisoners' Dilemma and Repeated Games	Chapter 10
8	Mid-Term Examination on November 1, 2016 (Tuesday) from 13:40-15:10 at MWT5	
9	Collective Actions	Chapter 11
10	Evolutionary Games	Chapter 12
11-12	Uncertainty and Information	Chapter 8
Revision Period	Individual Term Paper due at 17:00 on December 2, 2016 (Friday)	
Assessment Period	Final Examination to be scheduled by the University between December 8-23, 2016	
Textbook		
Avinash Dixit, Susan Skeath, and David Reiley, Games of Strategy, Fourth Edition, 2015		

MEANS/PROCESSES FOR STUDENT FEEDBACK ON COURSE
<ol style="list-style-type: none"> 1. Direct response via lectures, tutorials, and consultation times 2. Online response via email and Moodle site

COURSE POLICY (e.g. plagiarism, academic honesty, attendance, etc.)

The University Regulations on academic dishonesty will be strictly enforced! Please check the University Statement on plagiarism on the web: <http://www.hku.hk/plagiarism/>.

Academic dishonesty is behavior in which a deliberately fraudulent misrepresentation is employed in an attempt to gain undeserved intellectual credit, either for oneself or for another. It includes, but is not necessarily limited to, the following types of cases:

a. Plagiarism - The representation of someone else's ideas as if they are one's own. Where the arguments, data, designs, etc., of someone else are being used in a paper, report, oral presentation, or similar academic project, this fact must be made explicitly clear by citing the appropriate references. The references must fully indicate the extent to which any parts of the project are not one's own work. Paraphrasing of someone else's ideas is still using someone else's ideas, and must be **acknowledged**.

b. Unauthorized Collaboration on Out-of-Class Projects - The representation of work as solely one's own when in fact it is the result of a joint effort. Where a candidate for a degree or other award uses the work of another person or persons without due acknowledgement.

1. The relevant Board of Examiners may impose a penalty in relation to the seriousness of the offence.
2. The relevant Board of Examiners may report the candidate to the Senate, where there is *prima facie* evidence of an intention to deceive and where sanctions beyond those in (1) might be invoked.