COURSE OUTLINE

Course Code : BSE3711
Course Title : Strategic Thinking - Economic Applications
Semester : Semester 1, Academic Year 2026-2027
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OVERVIEW AND COURSE OBJECTIVES

How can the rise of online price comparison platforms like Google Shopping and PriceMe often mitigate, rather than intensify, price competition among vendors? What explains Samsung's dominance in the fiercely competitive DRAM semiconductor market, where market share battles can erode industry-wide profitability? Why do globally top universities often choose not to disclose their students' grades, while second-tier schools tend to be more eager to make them public? Though seemingly unrelated, these scenarios share a crucial characteristic: strategic interdependence, where the decisions of each participant both affect and are affected by the choices of others—so call a 'game' situation.

In today's business environment, uncertainty and interdependence are fundamental. Firms operate in strategic settings where conflict often coexists with mutual reliance. Decision-making in such contexts is inherently complex. Managers must anticipate competitors' potential moves and plan several steps ahead. Success requires more than reactive thinking—it demands the ability to shape outcomes by adjusting strategic variables and influencing others' behavior. Business, in this sense, is a high-stakes game, and game theory provides the structured analytical tools needed to make optimal decisions under such interdependent conditions.

This course introduces students to non-cooperative game theory as a rigorous yet practical framework for understanding strategic behavior in business and beyond. We begin with real-world cases that highlight strategic interdependence, then explore the foundational tools of game theory: game structure, behavioral conjectures, equilibrium concepts, and solution techniques. Students will study applications across a wide range of business contexts as well, including bargaining, market competition, advertising, pricing strategies, predatory and pre-emptive conduct, strategic trade and transportation policies, market entry and deterrence, and information asymmetries such as moral hazard, adverse selection, signaling, and screening. The course also examines strategic behavior outside business—in sports, politics, marriage, legal disputes, gambling, dieting, and popular culture—drawing examples from movies and television quiz shows etc.

To deepen experiential learning, students will participate in classroom game experiments simulating strategic interactions. The course also covers behavioral economics, exploring how actual human behavior diverges from classical rational models and what this means for strategy in practice.

While analytical rigor is essential, the course presents material in an intuitively engaging yet intellectually demanding way. Above all, the course emphasizes active participation. Students will be encouraged to contribute to discussions, engage in debates, and think critically about the strategic challenges that define today's interconnected business world.

COURSE TOPICS AT A GLANCE

Week #	Topics and Activities
1	Overview: Motivating Stories and Fundamentals of a Game
2	Static Games and Pre-Nash Equilibrium Concepts
3	Static Games and Nash Equilibrium
4	Applications of Static Games
5	Oligopolistic Interactions in Static Settings with Applications
6	Midterm Test
Recess Week (19 – 27 Septemberr)	
7	Dynamic Games and Sequential Rationality: Backward Induction and Subgame Perfection
8	Applications of Dynamic Games and Repeated Interactions
9	Strategic Moves and Applications
10	Game Theory of Incomplete Information
11	A Snapshot into Behavioral Economics
12	Case Presentations
13	Final Test

ASSESSMENT

This is a 100% CA (continuous assessment) module. The CA will be broken down as follows and more details on assessment will be briefed during the first class:

Assessment Components	Weightage
(Group Assessment)	
1. Problem Sets	20%
2. Case Presentation	20%
(Individual Assessment)	
3. Class Attendance and Participation	10%
4. Midterm Test	20%
5. Final Test	30%

Please note that the assessment categories 1 and 2—problem sets and case presentations—will be conducted as group work. Students will be asked to form their own teams, with further details to be provided during the first class. All group members are expected to collaborate actively and contribute jointly to the assigned tasks. Each member of the team will receive the same evaluation for the group's output, regardless of individual variations in contribution.

TEACHING/LEARNING VEHECLES

1. Lecture Notes

There is no official textbook for this course. Instead, classes will be based on comprehensive lecture notes prepared by the instructor, which will be uploaded to Canvas prior to each session.

2. Reference Books

The lecture notes crated for this course have been developed by the instructor and do not follow any specific textbook. However, students seeking supplementary references may consult any of the following recommended books, though this is not required.

- Avinash Dixit and Barry Nalebuff (2008), *The Art of Strategy*
- Avinash Dixit, Susan Skeath and David McAdams (2025), Games *of Strategy*
- Joel Watson (2013), *Strategy – An Introduction to Game Theory*
- Presh Talwalker (2014), *The Joy of Game Theory – An Introduction to Strategic Thinking*

3. Miscellaneous Readings

Supplementary reading materials corresponding to each set of lecture notes will be made available through Canvas. These readings serve as important learning aids and, in many cases, will be discussed during class. Students are expected to complete the assigned readings in advance and actively engage in classroom discussions.

4. Case Discussion

Students will be expected to apply their learning to real-world situations through a case presentation project. The cases, designed by the instructor to align with key topics in game theory, are based on content from news articles, academic journals, professional magazines, and online sources. Each case includes a set of discussion questions prepared to guide students' analysis. Working in teams, students will engage with these cases and present their insights in class. Further details and guidelines will be provided during class sessions.

5. Problem Sets

Problem sets consist of comprehensive questions that require not only a strong grasp of the course material but also the ability to apply and adapt that knowledge. They are intended not merely as an assessment tool, but as an independent learning opportunity. Students are expected to work on the problem sets collaboratively within their assigned teams.

6. For Those Who Need Help

The instructor will be available for consultations both during and outside of class hours, so please don’t hesitate to reach out if you need assistance. You are welcome to contact me via email or arrange a face-to-face meeting.

ACADEMIC HONESTY & PLAGIARISM

Academic integrity and honesty is essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

Plagiarism is "the practice of taking someone else's work or ideas and passing them off as one' own" (The New Oxford Dictionary of English). The University and School will not condone plagiarism. Students should adopt this rule - You have the obligation to make clear to the assessor which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is being presented as entirely your own work. This is a minimum standard. In case of any doubt, you should consult your instructor.

Additional guidance is available at:

- http://www.nus.edu.sg/registrar/administrative-policies-procedures/acceptance-record#NUSCodeofStudentConduct
- http://nus.edu.sg/osa/resources/code-of-student-conduct