

NOC:Strategy: An Introduction to game Theory - Video course

COURSE OUTLINE

The course covers topics on introduction and example of markets/ politics/ auctions, tragedy of commons and global warming, preferences, rationality and common knowledge, art of war, games with incomplete information, auctions with incomplete information, asymmetric information and repeated games.

COURSE DETAIL

Week No.	Topics
1	<ul style="list-style-type: none"> • Introduction Examples: Markets/ Politics/ Auctions • Prisoners' Dilemma – Examples- Cooperation in Projects, Cold War • Dominant Strategy Equilibrium – Why online sites compete to sell at lower prices • Best Response and Nash Equilibrium • Stag Hunt – Coordination and Bank Runs • Battle of Sexes and Multiple Nash Equilibria
2	<ul style="list-style-type: none"> • Tragedy of Commons and Global Warming • Market Dynamics – Part – I – Quantity Competition • Market Dynamics – Part – II – Price Competition • Mixed Strategy Nash Equilibrium • Cheating Vs. Paying Taxes, Soccer and Penalty Kicks • Portfolio Management and Investment Games
3	<ul style="list-style-type: none"> • Preferences, Rationality and common knowledge • Resolving the Prisoners' Dilemma • War of Attrition • Auction: Complete Information • Sequential Games and Examples • Sequential Games: Solution Concepts
4	<ul style="list-style-type: none"> • Art of War • Start up game • Ultimatum game • Stackleberg game • Voting • Braess Paradox
5	<ul style="list-style-type: none"> • Games With Incomplete Information • Examples: Battle of Sexes • Expected Payoffs • BNE • BNE in Markets • More Examples



NP-TEL

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Management

Coordinators:

Dr. Vimal Kumar
Assistant
Professor Department of
Humanities and Social
Sciences IIT Kanpur

Prof. Aditya K. Jagannatham
Assistant Professor Dept. of
Electrical Engineering IIT
Kanpur

6	<ul style="list-style-type: none">• Auctions with incomplete information• First price Auction and BNE• Expected revenue• Second price auction• Expected revenue equivalence• Other auction examples	
7	<ul style="list-style-type: none">• Asymmetric information• Cheap talk equilibrium• Signaling and screening• Equilibrium concepts• Market for lemons education as signaling device• Evolutionary games	
8	<ul style="list-style-type: none">• Repeated games• The role of reputation• Examples• Cooperative Games• Shapely value• Bargaining and negotiation	