Course Schedule: Semester 1, 2020

MATH1320 – Game Theory and Its Applications

Semester Week	Date	Lecture Topic	What is Due?
Week 1	2 – 6 Mar	Introduction to Game Theory, Solution Concept Games in Strategic Form & Extensive Form	
Week 2	9 – 13 Mar	Equilibrium Point Concept of Strategic Form Dominant Strategy, Nash Equilibrium Point (NEP)	***Class Exercise 1***
Week 3	16 – 20 Mar	Existence of NEP	***Class Exercise 2***
Week 4	23 – 27 Mar	Subgame Perfect NEP, Behavioral Strategies Pareto Optimality, Stackelberg Equilibrium	***Assignment 1***
Week 5	30 Mar – 3 Apr	Two-Person Zero Sum Games Saddle Point Strategies, MINIMAX Theorem	***Class Exercise 3***
Week 6	6 – 17 Apr	Properties of Optimal Mixed Strategies Graphical Solutions, Linear Programming of TPZSG	***Assignment 2***
	9 – 15 Apr	**MID – SEMESTER BREAK**	
Week 7	20 – 24 Apr	Games with Incomplete Information Bayes-Nash Equilibria	***Mid-semester test (During the class)***
Week 8	27 Apr – 1 May	Mechanism Designs and Auctions Designing An Optimal Auction	
Week 9	4 – 8 May	Infinite Games Duels – Noisy Duel, One Bullet Each	***Class Exercise 4***
Week 10	11 – 15 May	Silent Duels Silent – Noisy Duels	
Week 11	18 – 22 May	Characteristic Function in Cooperative Game Imputations & The Shapely Vector	***Class Exercise 5***
Week 12	25 – 29 May	Dominations of Imputations More Solutions Concepts in N-Person Cooperative Game	***Assignment 3***