

COURSE DETAIL

INTRODUCTION TO GAME THEORY

Country

United Kingdom - England

Host Institution

Imperial College London

Program(s)

Imperial College London

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mathematics

UCEAP Course Number

145

UCEAP Course Suffix**UCEAP Official Title**

INTRODUCTION TO GAME THEORY

UCEAP Transcript Title

INTRO GAME THEORY

UCEAP Quarter Units

5.00

UCEAP Semester Units

3.30

Course Description

This course explores the classical theory of games involving concepts of dominance, best response, and equilibria, where it proves Nash's Theorem on the existence of equilibria in games. Students learn the concept of when a game is termed zero-sum and prove the related Von Neumann's Minimax Theorem. The course explores cooperation in games and investigates the interesting Nash bargaining solution which arises from reasonable bargaining axioms. Students also explore the concept of a congestion game, often applied to situations involving traffic flow, where they see the counterintuitive Braess paradox emerge and prove Nash's theorem in another context.

Language(s) of Instruction

English

Host Institution Course Number

MATH70141

Host Institution Course Title

INTRODUCTION TO GAME THEORY

Host Institution Course Details

<https://www.imperial.ac.uk/computing/current-students/courses/math70141/>

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mathematics

Course Last Reviewed

2024-2025

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