# COURSE DETAIL

| INTRODUCTION TO GAME THEORY |
| --- |
| **Country**<br>United Kingdom - England |
| **Host Institution**<br>Imperial College London |
| **Program(s)**<br>Imperial College London |
| **UCEAP Course Level**<br>Upper Division |
| **UCEAP Subject Area(s)**<br>Mathematics |
| **UCEAP Course Number**<br>145 |
| **UCEAP Course Suffix** |
| **UCEAP Official Title**<br>INTRODUCTION TO GAME THEORY |
| **UCEAP Transcript Title**<br>INTRO GAME THEORY |
| **UCEAP Quarter Units**<br>5.00 |
| **UCEAP Semester Units**<br>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 Campus**

**Host Institution Faculty**

**Host Institution Degree**

**Host Institution Department**
Mathematics

Print