

Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
IND377	Introduction To Game Theory	6	3	0	0	3	4

Prerequisites	IND371
Admission Requirements	IND371

Language of Instruction	French
Course Type	Elective
Course Level	Bachelor Degree
Objective	<p>This elective course offered to industrial engineering students introduces them to solution techniques for game theory problems. As a result, students will gain fundamental knowledge and skills for solving game theory problems they may encounter in both their professional careers and academic pursuits. In this context, the objectives of this course can be outlined as follows:</p> <p>To provide students with:</p> <ul style="list-style-type: none">• Insights into game theory problems,• General information about the scope and complexities of game theory problems,• Basic knowledge about solution techniques for game theory problems,• The ability to apply complex game theory solution techniques and manipulation processes.
Content	<p>Week 1: Introduction and Mathematical Foundations</p> <p>Week 2: Cooperative and Competitive Games</p> <p>Week 3: Bargaining Theory</p> <p>Week 4: Zero-Sum Strategy Games</p> <p>Week 5: Non-Zero-Sum Strategy Games</p> <p>Week 6: Simultaneous and Sequential Games</p> <p>Week 7: Repeated Games</p> <p>Week 8: Midterm Exam</p> <p>Week 9: Concepts of Incomplete and Complete Information</p> <p>Week 10: Specific Games</p> <p>Week 11: Representation of Games</p> <p>Week 12: Solution of a Zero-Sum Game</p> <p>Week 13: Intuitive Thinking</p> <p>Week 14: Concept of Mixed Equilibrium and Strategy</p>
References	<p>1. Guillermo, O., "Game Theory", Academic Press, San Diego, 1995.</p> <p>2. Winston, W., "Operations Research: Applications and Algorithms", Cengage Learning, 2003.</p>

Theory Topics

Week	Weekly Contents
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