

The title of the course	Game Theory with Applications
Faculty	Faculty of Management and Transport
The level of studies	Bachelor Studies, Engineering Studies or Postgraduate Studies
Semester	Winter or summer
The form of classes and number of hours	2 ECTS Lectures and Exercises with the teacher 15h Student's own work: <ul style="list-style-type: none"> • Homeworks 25 h • Preparation for the test 10 h TOTAL: 50 h
Language of instruction	English
The number of ECTS	4
Teacher	Jarosław Jabłonka, PhD
The aims of the course (maximum 500 characters)	The main aim of the course is to familiarize the student with the basic concepts of game theory and its applications in the analysis of social, economic and transport behavior. Game theory helps to understand people's decision-making in both conflict and cooperative situations.
The content of the course: main topics and key ideas	Basic notions: a game, a strategy, cooperation, rationality, an equilibrium, solving a game, normal and extensive forms of a game. Zero and non-zero sum games with two players. Games against the Nature. Multi-player games. Applications in Economic. Applications in Transportation Systems.
Didactics methods	Presentations, conversation, working in groups
Course requirements	Presentation, homework, attendance
Literature (basic and supplementary)	<p>Straffin Philip D., Game Theory and Strategy, MAA, 2004</p> <p>Watson J., Strategy: An Introduction to Game Theory, W. W. Norton & Company, 2009</p> <p>Binmore K., Game Theory: A Very Short Introduction, Oxford University Press, 2007</p> <p>Peters H., Game Theory. A Multi-Levelled Approach, Springer-Verlag Berlin Heidelberg, 2008</p> <p>Chatterjee K., Samuelson W. F., Game Theory and Business Applications, Springer Science+Business Media New York, 2001</p>
The effects of the education - knowledge - skills social competences	<p>Knowledge: understanding basic notions of game theory, paradoxes in Game Theory.</p> <p>Skills: solving simple games, modelling simple economic and transportation situation by use of</p>

	<p>game theory, drawing comprehensive conclusions.</p> <p>Social competences: the art of argumentation, criticism in expressing opinions, independent and group work skills.</p>
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