

Course Title	Game theory and its economical applications
Language	English
Level of Higher Education	Third (PhD)
Semester	3
Course Launch Base	Department of Economic Cybernetics and Applied Economics
Course Coordinator, Contact Details	Prof. Tamara Merkulova e-mail: tamara.merkulova@karazin.ua
Prerequisites	Higher mathematics, Infomatics, Microeconomics
Objective	<p>The purpose of teaching the academic discipline is to study the basic principles of game theory and their application to economic analysis.</p> <p>Main objectives of studying the discipline</p> <p>The main objectives of studying the discipline are: mastering the basic concepts of game theory; mastering approaches and methods for solving games of different classes; acquiring skills in formalizing economic problems and tasks in the form of a game; studying the possibilities of applying the principles of game theory to the analysis of economic phenomena and problems.</p>
Program learning outcomes	<p>GC01. Ability to abstract thinking, analysis and synthesis.</p> <p>PLO03. Develop and research fundamental and applied models of socio-economic processes and systems, effectively use them to obtain new knowledge and/or create innovative products in economics and related interdisciplinary areas.</p>
Methods of control and assessment	<p>The following teaching methods are used: lectures, practical classes with problem solving, games and experiments, discussions on topics, individual homework (independent work), practical tasks in classes.</p> <p>Control methods. Current control - control work, completion of independent work tasks (individual homework) and assessment of student activity in classes.</p> <p>Final control – written exam.</p>
Course content	<p>Topic 1. Historical overview. Basic concepts and terms of game theory.</p> <p>Topic 2. Matrix games.</p> <p>Topic 3. Bimatrix games</p> <p>Topic 4. Cooperative games</p> <p>Topic 5. Games with nature</p> <p>Topic 6. Applied aspects of the application of game methodology in economics</p>