



## Course Syllabus

Course Title: **Managerial Decision-Making**

Teaching hours: 2 hours of lectures + 2 hours of seminars

General objective: *The main objective of the course: to get acquainted with rational procedures for solving decision-making problems, to master the basic methods and tools of decision-making for certainties, risks and uncertainties, to manage risk management procedures, to gain knowledge about choosing a suitable decision-making style, to acquire acquired theoretical knowledge in solving decision-making problems from company practice.*

Topics:

- 1 **Basic concepts and knowledge of decision-making** – decision process and its steps, types of decision-making processes, optimization and satisfaction principles, decision quality, information in decision-making
- 2 **Risk and uncertainty in decision-making** – subjective probability, risk attitude and utility functions, risk measurement
- 3 **Tools, methods and processes of decision making under certainty** – identification, analysis and formulation of decision problems, selection criteria, creating alternatives and determining their consequences, evaluation of alternatives
- 4 **Problem solving** – finding the causes of problems, systematic approaches, causal analysis
- 5 **Methods of decision-making analysis** – structure of problems, goals and criteria, transformation of goals into criteria; factors influencing the choice of methods
- 6 **Methods of creation and development of alternatives** – systematic and creative methods
- 7 **Multicriteria evaluation methods** – heuristics, conversion bridges; Simple methods for determining the value of alternatives; multicriteria utility function, pairwise comparison, compensation method
- 8 **Methods and tools of risk decision making: decision matrix** – construction, advantages, limitation, usability
- 9 **Methods and tools of risk decision making: probability trees and scenarios** – construction, advantages, limitation, usability
- 10 **Methods and tools of risk decision making: decision trees** – construction, advantages, limitation, usability
- 11 **Methods and tools of risk decision making: simulation Monte Carlo** – construction, advantages, limitation, usability
- 12 **Rules for decision-making** – under uncertainty, under risks
- 13 **Participatory decision-making and choice of decision style** – participation rate and style of decision-making, participatory influence, participative decision process management, decision-making models
- 14 **Risk management** – identification of risk factors and determination of their significance, risk assessment, risk mitigation, operational risk management