## Management (for students starting in 2024 or later)

- 1. The essence of mathematical statistics, the errors of sampling and inference, the steps of statistical processing
  - Interpretation of descriptive statistical indicators, properties of statistical indicators, main representation methods
  - Estimation theory, properties of estimation, interval estimation
  - The general course of hypothesis tests, statistical tests and their hypotheses, conditions for their application
  - Basics of correlation and regression calculations, basic assumptions of the model, interpretation and testing of indicators and regression coefficients
- 2. Management theories and methods, their application and criticism
  - What managerial skills and good and bad examples of their application do you know?
  - Describe the organizational culture types according to Handy and Quinn. How do organizational structures and culture types fit together?
  - Present the learned motivational theories and introduce application examples (theories of Maslow, Herzberg, McClelland, Vroom, Adams, Locke, and Skinner)
  - Describe the learned leadership styles and give examples of when it is recommended to use a given leadership style (theories of Lewin, Tannenbaum-Schmidt, Ohio State University, Blake-Mouton, and Hersey-Blanchard)
- 3. Segmentation, targeting and positioning and STP strategy
  - Describe the process and main characteristics of segmentation and list the segmentation criteria.
  - Describe the STP strategy, its process and present the dimensions of positioning in detail through examples
  - Using examples, explain the five positioning strategies.
  - Define the perceptual map and explain its application using an example of your choice
- 4. Ensuring quality in organizational operations
  - The main features of the current ISO 9000 family of standards
  - Characteristics of Six Sigma and Lean Six Sigma approaches
  - Organizational self-evaluation
- 5. Process management
  - Methods and tools for recording and monitoring processes (advantages, disadvantages)
  - Failure analysis methods (advantages, disadvantages)
  - Process improvement models: similarities, differences, criticisms
- 6. Management of customer demand and their satisfaction
  - Methods of forecasting customer demand and their application issues
  - Evaluation of demand forecast errors and their consequences for operation
  - Examination of the capacity to satisfy customer needs and its modification possibilities
- 7. Inventory and supply management
  - Types of inventory problems and the costs of the processes associated with them
  - Management dilemmas and models of inventory control
  - Tasks and solutions of material requirements planning

## Management 4.0

- 1. Basic concepts of strategic management
  - Show the connection between the values and the mission
  - Present the essence of the vision and its connection to the mission
  - What is the essence of the strategy and its relationship with the mission, vision and business environment?
- 2. Environmental analysis techniques and strategy creation
  - The emergence of technology in environmental analysis techniques
  - The contribution of SWOT and PESTEL analysis to strategy creation
  - Stakeholder analysis and conclusions in the strategy
  - Resource analysis and its relationship with strategy
- 3. Strategic aspects of national and organizational culture
  - Culture models and their relationship with strategy
  - Connections and strategic messages of national culture models
  - Correlations and strategic messages of organizational culture models
  - The relationship between technology and organizational culture
- 4. The relationship between the framework of competing values and the strategic position
  - Presentation of the framework of competing values
  - Cultural typology of competing values
  - Application of the OCAI survey tool and strategic aspects of the survey
- 5. Integration of new technologies into quality management systems
  - The challenges of integrating the latest technologies
  - Organizational integration of the latest technologies and quality management
  - The advantages and disadvantages related to the integration in terms of quality management
- 6. Quality and regulatory compliance
  - The latest challenges in compliance
  - The impact of compliance on quality management
  - Complex models and processes of compliance and quality management
- 7. Changing customer expectations and their management
  - Methods of understanding customer expectations
  - The impact of customer trends on the quality strategy
  - The impact of changing customer expectations on current quality management practices
- 8. The role and challenges of sustainability in quality management
  - The role of sustainability in quality management standards and systems
  - The impact of sustainability principles on organizational processes
  - Sustainability in organizational self-evaluation