



Education: *Bachelor of Science in Technical Management (BSc)*

Specialization: *Business Management*

1. The Business Process Management (BPM) Lifecycle and the Structure of BPMS Systems: Describe the stages of the process management life cycle and the basic components of supporting IT systems (BPMS)! Steps in the process management life cycle; Main components of BPMS (Business Process Management Suite); Interpret the role of the bridge between IT and the business side using BPMS.
2. Modeling business processes according to the BPMN 2.0 standard: Present the most important elements of the BPMN 2.0 notation system and the possibilities for structuring processes! Basic object types; The role of organizational elements in assigning responsibilities; The connecting elements and their usage rules.
3. Measuring and optimizing business processes: Analyze the possibilities of measuring process efficiency and the methodological steps leading to optimization! Definition of KPI and its role in process tracking; importance of monitoring data and process simulation; stages of process optimization.
4. Risk management and failure mode analysis (FMEA) in processes: Present the methodology for analyzing risks related to processes, with particular attention to the application of FMEA! Purpose and areas of application of FMEA; the risk priority number (RPN); risk mitigation measures.
5. Process-based management systems and documentation: Understand the process-based approach in quality management systems (QMS) and the associated documentation requirements! Process inventory and process descriptions; the "turtle diagram"; the relationship between KPI and the PDCA cycle in standardized systems.
6. Define the concept of Management Information System (MIS), characterize the main types of information systems, and present the role of the MIS in the corporate governance structure! Describe the most important functions of the MIS, list financial indicators and complex indicator systems (e.g. EVA, Z- score), and then explain what the purpose and depth of knowledge of the technical manager should have regarding the MIS program packages!
7. Describe Balanced Scorecard (BSC) philosophy, present its four perspectives and the logic of the strategic map! Review the VIR and BI software packages widespread in our country and rank them in terms of prevalence, price, complexity and BSC support! Discuss which systems use the Balanced Scorecard as a built-in Scorecard indicator system and explain why this is a decisive aspect when choosing a corporate system!

8. Define the concept and functions of Business Intelligence (BI), then present in detail the relationship and differences between VIR and BI! Describe the BICC (Business Intelligence Competency Center), its design aspects and organizational role, explain how BICC supports corporate decision-making and the development of a data-driven culture! Demonstrate how BI fits into the information needs of different management levels (operational, tactical, strategic)!
9. Introduce the concept, types and structure of business dashboard systems, explain how they provide information to users (real-time data, drill-down, filters), and explain at what management levels they are used! Interpret the concept of Key Performance Indicator (KPI), show how KPI-based business reports are created in a BI system, and explain the role of basic DAX expressions in data analysis! Explain the possibilities of using individual and corporate visualizations, the ways of sharing reports within and outside the company, and the principles of managing system administration privileges and authorization procedures!
10. Describe the difference between OLTP and OLAP systems and present the role and importance of data warehouses in enterprise decision support and BI architecture! Describe the iterative process of knowledge discovery (KDD – Knowledge Discovery in Databases), present the relationship between knowledge discovery and data mining, and introduce the most commonly used data mining techniques! Explain the structure of expert systems and the methods of IT management of knowledge, list the advantages and limitations of expert systems related to ERP, and finally present the new opportunities and challenges that the world of Big Data presents for corporate data analysis and business intelligence!
11. Describe the development of IT solutions from the 1970s to the present day, covering the evolution of hardware, data entry, data storage and communication! Describe the reasons and characteristics of the emergence of island systems and then explain what organizational and technological needs led to the emergence of integrated systems! Compare the properties of traditional island systems and integrated enterprise management systems and describe the possibilities and methods of connecting different systems!
12. Define the concept of an integrated enterprise resource planning (ERP) system and describe its development history from MRP through MRP II to modern cloud-based ERP solutions! Explain the role of ERP in the overall corporate information system and show how it fits into the organizational structure and culture of the company! Discuss the emergence of new business models and new business process concepts and outline the future development directions of ERP systems (cloud-based ERP, integration of artificial intelligence)!
13. Show why an ERP system is necessary for a company – explain the goals, advantages, disadvantages and organizational changes involved in the implementation! Describe the aspects, methods, standards and most common pitfalls of selecting integrated enterprise management systems! Present the role and significance of business process reengineering (BPR) in the context of ERP

implementation and explain how BPR can be implemented in practice within the framework of an ERP project!

14. Describe the structure and architecture of the SAP system, with particular attention to the S/4HANA architecture and its differences from its predecessors! Review the main modules of SAP (FI, CO, MM, SD, PP, HR, etc.), characterize the tasks and responsibilities of each module, and then present in detail the connection points of the modules to each other and the logic of the integrated data flow! Explain the advantages of the in-memory database technology of S/4HANA compared to previous solutions!
15. Describe how the ERP system supports project management, what functions it provides for project planning, resource management, tracking and controlling! Present the methods of organizing information systems and the essence of the BSP (Business Systems Planning) methodology in the context of planning a corporate ERP strategy! Explain the basic principles of operating the ERP system, covering the most important tasks of operations and service management (ITIL approach), and describe how the ERP system supports decision-making at different management levels with its own, native tools!
16. The complex network model of the company. Describe the network layers of a complex company network and what are the characteristics of the different layered networks!
17. Factors influencing the interactions of business networks: temporality of interactions; subjective interpretation; connectedness; interdependence; relativity.
18. Network operation. Present the network approach to corporate operations! Aspects of network operation.
19. Network-based approach to business interactions. Describe the criticism of the structure-based and process-based approaches! Present the network-based interpretation of the market!
20. Network business strategy. Describe the network approach to business strategy creation! How do you interpret network strategy: organizational boundaries and organizational effectiveness.