



Topics for the PhD admission procedure for the academic year 2022/2023

Competitiveness and human resources

- Globalisation, value chain, steps to profitability, growth in human resources, acquisition and retention of employee skills and intellectual capital.
- HR departments, their roles and new HR roles, role models (strategic partner, administrative expert, change agent).
- Factors of effective functioning of economic organisations and behavioural aspects of high-performance organisations.
- Concepts of effective leadership in the 20th and 21st century.
- Linking human resource management to global strategies.
- The role of human resource management in the development of knowledge management.
- Knowledge management. Basic characteristics.
- Institutionalisation of business ethics, creation of ethical codes and ethical aspects of corporate social responsibility.
- The importance of informatization in the management process of socio-economic systems today. Cybernetics and its impact on the development of management.

Strategy and strategic thinking

- The development of strategy theory and directions of development of strategic management theory.
- Prescriptive and emergent approaches in strategic management.
- Strategic management as a process and its basic stages.
- Analytical methods and techniques with the support of strategic thinking.
- Current problems of strategic management application in practice.

Business strategy in ICT

- Information systems - information quality and value. What decisions a manager makes depending on their position in the organisational structure and what information they need to make decisions.
- The strategic role of information systems. Enterprise information system. The importance of IS for the enterprise.
- ICT project management. Life cycle of ICT projects.
- Database systems. Types of database systems. Database design.
- Implementation of a new IS understood as an organisational change.





- BI, datamining and knowledge management. The importance of knowledge systems for the enterprise.
- Service-oriented architecture. Information technology and its role in gaining competitive advantage for the firm in service management.

Marketing in the "new" market environment

- Transformation in marketing philosophy.
- Flexible marketing strategies.
- Holistic marketing.
- Marketing - managing profitable customer relationships.

International Management

- EU, WTO, World Bank, European Central Bank, ...
- International trade agreements, European integration and Brexit.
- Inflation and inflation developments in the EU and Slovakia, the evolution of the dollar and the euro.
- International business ethics and social responsibility of international enterprises.
- Mergers, acquisitions, joint ventures, strategic alliances.
- Forms of international cooperation.
- International human resources management.

The economic substance and object of financial management

- Financial market - capital market.
- Financial and capital structure of the enterprise.
- Investment decision-making.
- Capital management in the enterprise.
- Management of financial investments.
- Financial derivatives in the financial management of an enterprise.
- Dividend policy of the enterprise.
- Financial analysis as a basis for financial decision-making and financial planning.
- Financial planning.
- International financial management.

Applications of mathematics and statistics in economics and management

- Optimization problems, the problem of determining free and bounded extrema of a function of several variables.
- Linear programming, Simplex method, duality problem, sensitivity analysis.





- Taylor expansion of functions of one and more variables.
- Basic methods for describing a sample of cross-sectional data: basic data types, description of data using tables, graphs. Descriptive statistics (measures of central tendency, variability, skewness, steepness). Confidence interval for mean, parametric tests.
- Basic distributions of discrete (alternative, geometric, hypergeometric, binomial distribution) and continuous (uniform, exponential, normal distribution of data) random variables. Testing the fit of an empirical distribution to a given distribution. Central limit theorem.

Quantitative methods in management

- Dependence analysis of two qualitative random variables. Contingency tables, Chi-square test of independence. Measures of the relationship between two qualitative variables (Pearson's contingency coefficient, Cramer's V, Spearman's, Kendall's coefficient, ...).
- Analysis of the relationship between qualitative and quantitative variables, ANOVA. ANOVA assumptions, Post-hoc tests. Non-parametric ANOVA.
- Analysis of the relationship between two quantitative variables (regression analysis). Correlation analysis. Model validation, model error analysis.
- Time series analysis. Additive and multiplicative decomposition of time series. Simple exponential smoothing.
- ARIMA models for time series. Basic characteristics of the Box-Jenkins methodology. Model error analysis, determination of the correct model.

Recommended literature:

- Robbins, S. P - Coulter, M. 2021. Management, 15th edition. Harlow: Pearson Education Ltd, 2021. ISBN 9781292340890.
- Kotler, P. - Keller, K. L. - Chernev, A. 2021. Marketing Management, 16th edition. Harlow: Pearson Education Ltd, 2021, 832 p. ISBN 9781292404813.
- Rolf Dornberger (Editor): Business Information Systems and Technology 4.0 - New Trends in the Age of Digital Change; Studies in Systems, Decision and Control, © Springer International Publishing AG 2018, ISBN 978-3-319-74321-9 ISBN 978-3-319-74322-6, (eBook), <https://doi.org/10.1007/978-3-319-74322-6>.
- Brealey, R.A.- Myers, S.C.-Allen F.: Principles Systems and Technology 4.0 - New Trends in the Age of Corporate Finance Global Edition, 2011 McGraw-Hill.

