List of master thesis promoters - full-time studies
students of semester 1
exam in the academic year 2023/2024

Managing Enterprise of the Future / Logistics systems

No.	Name/surname	Diploma Seminar	Proposed thematic areas and issues
1.	Prof. dr hab. inż. Stefan Trzcieliński (+ dr inż. Paweł Króla 1p., dr Yevhen Revtiuk 1p.)	Business environment, opportunity recognition, Lean and Agile Management and Industry 4.0	Proposal of topics to discuss during the seminar in 2023-24: 1. Retrospective of changes in segment of macroenvironment (since beginning of 20th century) 1.1. Political and legal 1.2. Economic 1.3. Social and demographical and natural environment 1.4. Technological 2. Comparison of effectiveness of mass, lean and agile production enterprises 3. Measuring agility of enterprise 4. ICT for agile supply chain management 5. Modelling an opportunity 6. ICT for agility in cross-section of: Brightness, Flexibility, Intelligence, Shrewdness Opportunity creation, opportunity discovery (quick response) 7. Agile software manufacturing – tools; variation of effectiveness 8. ICT for Industry 4.0 9. Industry 4.0 and agility 10. Agile project management (in other sectors than ICT) – tools, effectiveness Example of the dissertation' theme: • Adjustment of the management system to changes taking place in the socio-demographic, economic and technological segment of the company's environment • Improvement of effectiveness of agile software development teems • IT of Enterprises 4.0 and its ability to quick response

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2.	dr hab. inż. Paulina Golińska-Dawson, prof. PP	Sustainability and Circular Economy in the logistics, supply chain management , Supply chain management in automotive industry, Reverse Logistics, Materials management	1. Assessments of selected logistics processes in an enterprise to improve their sustainability 2. Assessment of scenarios the products' recovery in the enterprise and the related logistics system 3. Assessment of selected aspects of logistics/supply chain management in an enterprise from the automotive industry 4. Assessment of material flow management in a selected company in terms of their compliance with Circular Economy guidelines 5. Assessment of logistic processes with the regard to the selected aspect of the Circular Economy 6. Assessment of the level of sustainable resource management in a logistics / production company 7. Management of returns in a supply chain 8. Design of the reverse logistics operations 9. Assessment of the materials management in a company and concept of its improvement
3.	dr hab. Mariya Khmelyarchuk, prof. PP	Financial and economic, managerial and institutional foundations of enterprise competitiveness in the context of the principles of knowledge economy and sustainable development	1. Analysis of internal and external sources of financing of the enterprise activity in the context of the implementation of the principles of sustainable development. 2. Bank lending to enterprises in the implementation of the principles of sustainable development. 3. Implementation of the ESG (socially responsible investment) strategy in the banking sector. 4. Comparative analysis of sustainable development strategies of selected enterprises. 5. Comparative analysis of the institutional environment for the implementation of the principles of sustainable development on the example of selected countries. 6. Assessment of strategies of selected enterprises in crisis situations and uncertainty (on the example of the crisis caused by the Covid-19 pandemic). 7. Analysis of the international competitiveness of transnational corporations. 8. Assessment of competitive positions of the enterprise in the market in the context of the principles of knowledge based economy. 9. Assessment of the organizational structure of enterprise management in the context of the principles of knowledge based economy. 10. Assessment of the innovative potential of the enterprise in ensuring competitive advantage in the knowledge economy. 11. Human capital of the enterprise in the implementation of the strategy of knowledge economy.

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4.	dr Dominique Besson, prof. PP	Research on conflicts in agile enterprises	In this research area, individual topics of the MSc thesis will be formulated, taking into account the student's interests. Based on the master thesis, the author and the supervisor will prepare a research article.
5.	dr Jussi Kantola, prof. PP	Industry 4.0 and beyond, e.g. digitalization, digital operations, management, HR / resources, information systems, smart factory and production, AI, IoT, machine learning	In this research area, individual topics of the MSc thesis will be formulated, taking into account the student's interests. Based on the master thesis, the author and the supervisor will prepare a research article
6.	dr hab. rer nat. Gerhard Weber, prof. PP	Operational Research in "Generalized Space-time"	1. OR-MS in data science, statistical learning, machine learning, and artificial intelligence (and applications) 2. OR-MS methods of optimization and optimal control (and applications) 3. OR-MS methods of stochastics and stochastic optimal control (and applications) 4. OR-MS in human resource management and education (and applications) 5. OR-MS in inventory management and supply chain management (and applications) 6. OR-MS in production planning and transportation (and applications) 7. OR-MS in physics and cosmology (and applications) 8. OR-MS in generalized space-time design and research (and applications) 9. OR-MS in generalized space-time shift and travel (and applications) 10. OR-MS in cognitive sciences and neuroscience (and applications) 11. OR-MS in economics, finance and emerging markets (and applications) 12. OR-MS in inverse problems and remote sensing (and applications) 13. OR-MS in brain research and heart research (and applications) 14. OR-MS in earth-, geo- and environmental sciences (and applications) 15. OR-MS in biology and chemistry (and applications) 16. OR-MS in the arts (and applications) 17. OR-MS in development and developing countries, and ethics (and applications)

No.	Name/surname	Diploma Seminar	Proposed thematic areas and issues
7.	dr hab. inż. Jacek Żak, prof. PP	Management in transportation and logistics (Research area: modeling, analysis, optimization and decision aiding in transportation and logistics).	1. Design and evaluation of novel/ innovative transportation – logistics solutions (drones; autonomous vehicles; crowdshipping; carpooling; etc.) 2. Analysis of the TFL (Transport – Forewarding – Logistics) Industry 3. Redesign/ Restructuring of TFL Industry companies. 4. Solving selected transportation – logistics problems (e.g.: Location Problem; Vehicle Routing Problem; Fleet Composition and Selection; Portfolio Optimization; Process Scheduling; Crew Selection etc.) 5. Decision processes in transportation and logistics. Analysis of the decision situation and development of the decision/ problem solving procedure. 6. Advanced technologies (RFID, Voice-Picking, GPS, GIS, etc) in transportation and logistics – analysis, evaluation, selection and implementation (adaptaion). 7. Existing transportation – logistics start-ups – analysis; experience; strengths and weaknesses. 8. Analysis and evaluation of transportation – logistics portals and mobile applications. Evaluation of computer-based systems applied in transportation and logistics. 9. Multiple Criteria Analysis (MCA) in transportation and logistics. Solving selected "hot" decision problems with the application of MCA Methodology (e.g. Location of the Central Airport / Hub in Poland; ranking of TFL Industry companies; design of Via Carpathia; rationality of the Vistula Spit project; analysis and assignment of materials/ passengers' flows in a selected area). 10. Simulation, analysis and evaluation of selected transportation – logistics systems and processes. 11. Supply Chain Management. The concepts of Lean and Agile Management. 12. Design, redesign and evaluation of distribution systems. 13. Urban transportation and city logistics – proposals of different solutions and their evaluation; in particular innovative systems for "Last Mile Deliveries" and Mass Transit Systems (e.g. Passenger Transportation on Demand) 14. International Logistics – design and evaluation of international transportation – logistics corridors/ supply chains. 15. Industry 4.0. Innovative transportation – logistics concepts associated with the Internet of Things; Artificial Intelligence; Cloud Computing; Block Chains; Identifications Technologies (RFID; NFI); Computer – Integrated Manufacturing; Autonomous Vehicles. Additionaly, all individual stuedents' proposals are welcome.