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|---|--|--------------------------------|---------------|
| Title of the Course | DIGITALIZATION AND AUTOMATION | | |
| Amount in credit points/ECTS) | 2/3 | Volume (in hours) | 80 |
| Prior knowledge | Information management and data processing, Basics in Logistics, Supply chain management, Management of freight flow in warehouse; Warehouse management, Project management in Logistics | | |
| Science Sector | - | | |
| Science Subsector | - | | |
| Summary of academic hours | | Amount (academic hours) | |
| Distance learning | | 40 | |
| Contact hours / video lessons | | 8 | |
| Exercises, self – assessment questions and tests | | 14 | |
| Individual work/ discussions in distance | | 16 | |
| Exams/tests | | 2 | |
| 1st level professional study programme | Business Logistics | | |
| Author(s) of the course | Mg.oec Alisa Lāce | | |
| Lecturer(s) of the course | Mg.oec Alisa Lāce | | |
| Goal of the course: | To provide students with the knowledge about the basic issues in supply chain digitalization and business process automatization in an enterprise | | |
| Requirements for obtaining credit points (structure of course evaluation): | <p><u>The final evaluation is calculated:</u> Moodle discussion/tasks – 50% Exam – 50% <i>For obtaining final evaluation, both activities should hold successful evaluation – not below 4 points.</i> <i>Final evaluation is the average grade in 10-point system, in proportion of percentage distributed amongst both activities</i></p> | | |
| Study Results | | | |
| <p>1. <i>Knowledge:</i></p> <p>1.1. A student names and describes such notion as IoT, Big Data, cloud technologies, robotization, automatization, etc.</p> <p>1.2. A student identifies the basic principles and notions of digitalization, name their meaning for the improvement of enterprise's competitiveness</p> <p>2. <i>Skills:</i></p> <p>2.1. A student graphically illustrates and interprets the business processes of an enterprise</p> <p>2.2. A student assesses the costs of automatization implementation in an enterprise</p> <p>3. <i>Competences:</i></p> <p>3.1. A student analyses the business processes and provides recommendations for their transformation using digitalization tools;</p> <p>3.2. A student makes decisions and justifies them based on the digitalization of business processes in an enterprise</p> <p>3.3. A student finds and summarizes information about current tendencies in the field, assesses different innovations and research, makes recommendations and justifies them with the calculations on the possible implementation of enterprise's digitalization and business process automation</p> | | | |
| For general use | Valid from 01.03.2021 | Version 3 | page 1 from 4 |

Content of the Course

| No. | Subjects | Contact hours, video, audio lessons | Distance learning | Exercises, self-assessment questions and tests | Individual task – remote discussion. Description of the individual task is available in the E-studies | Exam |
|---------------|--|-------------------------------------|-------------------|--|---|------|
| 1. | Main terms and their meaning. Notions: information systems, automation, robotization, digitalization | 8 | 5 | 1 | 2 | 2 |
| 2. | Preconditions of digitalization and automation in supply chain | | 5 | 1 | 2 | |
| 3. | Digitalization in supply chain | | 5 | 2 | 2 | |
| 4. | Robotization and automation in logistics | | 5 | 2 | 2 | |
| 5. | Automation of business processes | | 5 | 2 | 2 | |
| 6. | Assessment of business processes and defining KPIs at service level | | 5 | 2 | 2 | |
| 7. | Automation tool, their choice | | 5 | 2 | 2 | |
| 8. | Assessment of effects in business process automation | | 5 | 2 | 2 | |
| TOTAL: | | 8 | 40 | 14 | 16 | 2 |
| 80 | | | | | | |

Mastering the course and successfully passing examination, student is capable of (*knowledge, skills and competencies*)

| Study Results: | Evaluation Criteria | | |
|------------------|--|--|---|
| | (40-69%) | (70-89%) | (90-100%) |
| Knowledge | With difficulties can show facts and knowledge about principles, processes and regularities and use in studies | Show facts and knowledge about principles, processes and regularities and use in studies | Show general facts and knowledge about principles and regularities and use in studies and professional activity |

| | | | |
|--------------------|--|--|--|
| Skills | Can solve work tasks by choosing and applying basic methods, tools, materials and technologies | Can independently organize one's work, complete work tasks by choosing and applying the most appropriate methods, tools, materials, information and technologies | Can effectively organize one's work and solve problems creatively, complete work tasks by choosing and applying the most appropriate methods, tools, materials, information and technologies |
| Competences | Can be responsible for work results in invariable work environment, acting in line with instructions | Can independently plan work and study task completion, solve problematic issues in variable work environment by adjusting one's action to the conditions | Can independently and effectively plan and organize the execution of study and work tasks creatively in variable conditions by adjusting one's action to the conditions |

Acknowledgement of the obtained study results

| Study Results | 1. | 2. | 3. |
|--------------------------|----|----|----|
| Evaluation Method | | | |
| Moodle discussions/tasks | X | X | X |
| Exam | X | X | X |

Core Literature

- Щербаков В. В., Мерзляк А. В., Коскур-Оглы Е. О. (2016) Автоматизация бизнес-процессов в логистике: Учебник для вузов. Стандарт третьего поколения
- Robert Szymanski, Viswa Viswanathan (2019) Business processes: A bridge to SAP and a guide to SAP TS410 certification Kindle Edition

Additional Literature

- Yingli Wang, Steve Pettit (2016) E-Logistics: Managing Your Digital Supply Chains for Competitive Advantage
- Robinson A. The Digital Supply Chain: The Landscape, Trends, Types, and the Application in Supply Chain Management
- Blockchain and the Supply Chain: Concepts, Strategies and Practical Applications' (2019), by Nick Vyas, Aljosja Beije, Bhaskar Krishnamachari. Published by KoganPage, 297 pages

Recommended Periodicals

- A visit to the Oracle: Reviewing the state of construction industry digitalisation
https://www.researchgate.net/publication/331611323_A_visit_to_the_Oracle_Reviewing_the_state

| | |
|----|---|
| | <u>of construction industry digitalisation</u> |
| 2. | McKinsey and company (2016) Supply Chain 4.0 – the next-generation digital supply chain https://www.mckinsey.com/business-functions/operations/our-insights/supply-chain-40--the-next-generation-digital-supply-chain |
| 3. | Automation in Internal Logistics: Strategic and Operational Challenges https://www.researchgate.net/publication/264701834_Automation_in_Internal_Logistics_Strategic_and_Operational_Challenges |