COURSE DESCRIPTION CARD - SYLLABUS

Course name
Inventory management for logistics systems [S2Log2E-SL>ZZwSL]

Course

Field of study
Logistics

Year/Semester
2/3

Area of study (specialization)
Logistics Systems

Profile of study
general academic

Level of study
second-cycle

Course offered in
English

Form of study
full-time

Requirements
elective

Number of hours

Lecture
15

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
30

Number of credit points

2,00

Coordinators

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Lecturers

Prerequisites

Student knows the basic logistical issues such as functional separation of logistics, the essence of customer service, the nature of transport and storage logistics. Student knows the basic concepts of inventory management: EOQ, SL, ROP, the maximum level of inventories. Student is able to calculate a simple task with the content. He can use statistical formulas such as the mean and statistical deviation.

Course objective

Main objective is to familiarize students with in-depth inventory management problems in terms of demand and the dependent and independent skills training in their operational decisions on renewal of stocks in the supply chain.

Course-related learning outcomes

Knowledge:
1. Student has a deeper knowledge of inventory management P7S_WG_02][P7S_WG_05]
2. Student can identify and articulate the relationship between inventory, storage, transport and other functional areas of logistics, supply chain [P7S_WG_01]
3. Student recognizes inventory management techniques used in supply chains [P7S_WK_01]

Skills:
1. Students can design a process to analyze the efficiency of inventory management in supply chain [P7S_UW_05][P7S_UU_01]
2. Student is able to define the reorder of stocks problem in a supply chain [P7S_UW_01]
3. Student can use a spreadsheet with a simple algorithm to design a restoration of stocks in a single link of the supply chain [P7S_UK_01]

Social competences:
1. Student is prepared to help and cooperate in the project group [P7S_KR_01]
2. The student is responsible for the identification and resolution of the dilemmas associated with inventory management [P7S_KR_01]
3. The student is determined to think in an entrepreneurial way of inventory management [P7S_KR_01]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Completion of lectures on the basis of an examination in written or oral form on the issues discussed during the lecture. The exam is passed after providing substantively correct answers to most of the issues discussed.
Project: On the basis of the quality of the project answers to questions about the project.

Programme content

The essence of inventories in supply chains. Methods of planning inventory levels within the supply chain. Inventory allocation in the supply chain. Shaping the inventory renewal policy in the supply chain. Multi-stage inventory management systems.

Course topics

Lecture: The issue of course includes the following topics: functions of inventory in supply chains, the impact of stocks on the basic objectives of supply chain planning methods in stocks in the supply chain, allocation of inventory in the supply chain policy-renewal of inventory in the supply chain, multi-stage inventory management systems, TOC Replenishment, VMI - CMI - SMI strategies, Stochastic Inventory Control. Managerial decision-making based on case studies.
Project: Best practices and case study analyzes for supply chain inventory management.

Teaching methods

Lecture: conversational lecture, information lecture.
Project: computer simulation method, project method.
Self-employment: working with a book and internet.

Bibliography

Basic:
1. Adamczak M., Cyplik P., Kovačič Lukman R., Fošner M. (red.), Supply Chain and Logistics Planning, 2020, https://wsl.com.pl/pl/wydawnictwo-wsl .
2. Tempelmeier H., Inventory management in supply networks: problems, models, solutions, Books-on-Demand, Norderstedt, 2011.
3. Cyplik P., AN APPLICATION OF SPARE SUPPLIES MANAGEMENT FOR WAREHOUSE SUPPLIES OPTIMIZATION USING CLASSICAL METHODS - CASE STUDY, Logforum 1.3, 2005, nr 4.

Additional:
1. Sherbrooke C.C., Optimal inventory modeling of systems: multi-echelon techniques, Kluwer Academic Publishers, New York, 2004.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	45	1,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	5	0,50