POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Inventory management in supply chain

Course

Field of study	Year/Semester
Logistics	1/2
Area of study (specialization)	Profile of study
Supply Chain Logistics	general academic
Level of study	Course offered in
Second-cycle studies	Polish
Form of study	Requirements
full-time	elective

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
30		
Tutorials	Projects/seminars	
	30	

Number of credit points
5

Lecturers

Responsible for the course/lecturer:

Ph.D., D.Sc., Eng. Piotr Cyplik, University Professor

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Faculty of Engineering Management

 ul. J. Rychlewskiego 2, 60-965 Poznań

Responsible for the course/lecturer:

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. The 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:

a) For the project: on the basis of (1) the quality of the project (2) answers to questions about the project

b) for the lecture: on the basis of colloquium - written work on the issues discussed during the lecture. The exam can be applied after obtaining the ratings of the project and the laboratory. The exam is passed, after giving the correct answers to most questions.

Programme content

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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.

Teaching methods

Didactic methods

In lectures: conversational lecture, information lecture

In project: computer simulation method, project method

In the field of self-employment: working with a book and internet

Bibliography

Basic

1. Cyplik P., Hadaś Ł., Zarządzanie zapasami w łańcuchu dostaw, Wydawnictwo Politechniki Poznańskiej, Poznań, 2012

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

3. Tempelmeier H. Inventory management in supply networks: problems, models, solutions Books-on-Demand Norderstedt 2011

4. Cyplik P., AN APPLICATION OF SPARE SUPPLIES MANAGEMENT FOR WAREHOUSE SUPPLIES OPTIMIZATION USING CLASSICAL METHODS - CASE STUDY, Logforum 1.3 (2005): 4

Additional

1. Krzyżaniak S. Podstawy zarządzania zapasami w przykładach ILiM Poznań 2008

2. Coyle J. J., Bardi E. I., Langley J.Jr. Zarządzanie logistyczne PWE Warszawa 2002

Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	65	2,5
Student's own work (literature studies, preparation for exam, project preparation) [1]	60	2,5

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[1] delete or add other activities as appropriate