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

Course

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

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
30		
Tutorials	Projects/seminars	
15		

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

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The student knows the basic logistical issues such as functional separation of logistics, nature customer service, the nature of transport and storage logistics. 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

The course aims are to familiarize students with the most important problems of inventory management in terms of independent demand and training in operational decision-making skills for reordering stock.

Course-related learning outcomes

Knowledge

1. Student has a basic knowledge of inventory management [P6S_WG_05] [P6S_WK_06]. 2. Student is able to identify and formulate the basic relationship between inventory and, storage, transport and other functional areas of logistics [P6S_WK_04]. 3. The student knows the methods of stock renewal and their impact on the supply chains management [P6S_WK_05].

Skills

1. Student can design a process to analyze the efficiency of inventory management [P6S_UW_06][P6S_UK_02]. 2. Student is able to define the problem of renewal of stocks in terms of demand independent [P6S_UW_01][P6S_UW_03][P6S_UO_01]. 3. Students can use a spreadsheet with a simple algorithm to design a reordering of stocks [P6S_UK_01][P6S_UU_01].

Social competences

1. Student shows a willingness to cooperate and assist in the design group [P6S_KR_02]. 2. The student is responsible for the identification and resolution of the dilemmas associated with inventory management [P6S_KR_01]. 3. Student is determined to think in an entrepreneurial way of inventory management [P6S_KO_02].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

a) For the tutorials: 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 exam - 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

The issue of course includes the following topics: functions of inventory in logistic systems (includes implementation of VMI process), classification of inventory, the structure of supply (inventory cycle, safety, surplus - identifies causes for stock obsolescence and redundancy and propose ways for minimising this), the basic elements of inventory management to cover the needs of dependent and independent (includes push/pull logic, lead time definition, product cycle vs. level of inventory management), the costs of rising, maintenance and lack of supply, demand analysis (includes method of improves the demand management process), demand forecasting (9 stages of forecasting process), definitions of customer service (CS in the demand management process), developing supply security, reordering systems inventory (optimize level of inventory), optimize inventory turnover (volume of

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deliveries), the square root law (safety stocks in the dispersion of stock), inventory management of product groups (includes CPFR method), measures of stock (KPI in inventory management)

Teaching methods

Didactic methods

In lectures: conversational lecture, information lecture

In tutorials: computer simulation method, project method

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

Bibliography

Basic

1. Cyplik P., Hadaś Ł., Zarządzanie zapasami w łańcuchu dostaw, Wydawnictwo Politechniki Poznańskiej, Poznań, 20121.

2. Krzyżaniak S., Podstawy zarządzania zapasami w przykładach, ILiM, Poznań, 2008

3. Sarjusz-Wolski Z., Sterowanie zapasami w przedsiębiorstwie, PWE, Warszawa, 2000

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

2. Krzyżaniak S., Cyplik P., Zapasy i magazynowanie, Tom I Zapasy, Podręcznik do kształcenia w zawodzie technik logistyk ILiM Poznań 2007

Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	55	2,0
Student's own work (literature studies, preparation for tutorials, preparation for exam, project preparation) [1]	70	3,0

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[1] delete or add other activities as appropriate