COURSE DESCRIPTION CARD - SYLLABUS

Course name
Warehouse Management [S1IZarz1E>GM]

Course

Field of study
Engineering Management

Year/Semester
3/6

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
English

Form of study
full-time

Requirements
elective

Number of hours

Lecture
15

Laboratory classes
0

Other
0

Tutorials
15

Projects/seminars
0

Number of credit points

2,00

Coordinators

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Lecturers

Prerequisites

The student has basic knowledge of logistics, process analysis, management and basic economic concepts. Is able to integrate the information obtained, interpret it and draw conclusions. The student is aware of the importance and understands the technical and non-technical aspects and effects of storage.

Course objective

To familiarize students with the essence and principles of warehouse management. Students learn basic solutions used in warehouse management.

Course-related learning outcomes

Knowledge:
The student defines key concepts related to warehouse management, including warehouse layouts and warehouse zones [P6S_WG_15].
The student describes methods of optimizing warehouse operations, including the use of technical equipment and warehouse documentation [P6S_WG_16].
The student characterizes inventory processes and health and safety rules in the context of warehouse management [P6S_WG_17].

Skills:
The student calculates pallet racking slots, warehouse modules, and forms palletized load units, using analytical methods [P6S_UW_10].
The student analyzes and optimizes warehouse processes, considering various systemic aspects [P6S_UW_11].
The student conducts a preliminary economic analysis of warehouse operations, using operational indicators [P6S_UW_12].
The student analyzes warehouse documentation and processes in terms of their efficiency [P6S_UW_13].

Social competences:
The student consciously makes decisions related to warehouse management, considering various management aspects [P6S_KO_02].
The student recognizes the responsibility for decisions related to warehouse management, taking into account their impact on the environment and society [P6S_KR_01].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Forming:
In terms of exercises: based on students' activity during classes (independent work and in groups, expressing their own views and opinions).
In terms of lectures: based on answers to questions about the material covered in lectures.
Summary:
In terms of exercises: skills acquired during practical classes are verified on the basis of developed decision algorithms, tasks performed on an ongoing basis and a final test, consisting of 3-4 tasks scored differently depending on their level of difficulty. Passing threshold: 50% of points.
In terms of lectures: written assessment, answers to closed questions; passing is possible after obtaining a minimum of 50% of points.

Programme content

The program covers the basics of warehouse management along with the warehouse process, warehouse technologies, warehouse documentation, optimization of warehouse processes, indicators warehouse efficiency.

Course topics

The lecture program covers the following topics: Warehouse process from A to Z - warehouse and warehouse process. Overview and characteristics of various types and systems of warehouses. Stock arrangement in the warehouse. Methods of optimizing warehouse processes. Types of documents warehouses and their functions. Types and methods of inventory. Overview of warehouse equipment: shelves, internal transport systems and criteria for selecting warehouse equipment. Key performance indicators (KPI) in warehousing.
The exercise program covers the following topics: Algorithms of the warehouse process. Practical completion of warehouse documents. Formation of pallet loading units. Calculation of rack slots. Calculation of storage modules. Optimization of storage and picking. Calculation of operational indicators and their interpretation.

Teaching methods

In the field of lectures: informative lecture, conversational lecture.
In the scope of independent work: work with the book.
In the scope of tutorials: multimedia presentation illustrated with examples given on a blackboard and performance of tasks given by the teacher - practical exercises, subject exercises, case-based method, didactic discussion.

Bibliography

Basic:

1. Fertsch M., Projektowanie magazynów, [w:] Fertsch M. (red.), Elementy inżynierii logistycznej, Wydawnictwo Instytutu Logistyki i Magazynowania, Poznań, 2017.
2. Gubała M., Popielas J., Podstawy zarządzania magazynem w przykładach, Biblioteka Logistyka, Wydawnictwo ILiM, Poznań, 2002.
3. Dudziński Z., Poradnik organizatora gospodarki magazynowej w przedsiębiorstwie, PWE, Warszawa, 2012.
4. Keller S.B., Keller B.C., The definitive guide to warehouseing, Council of Supply Chain Management Profrssionals, 2014.
5. Kudelska I., Jędrzejak K., Methodology for Designing Spatial Layout of a Warehouse in the Context of Sustainable Development, Annales Universitatis Mariae Curie-Skłodowska, Sectio H, Oeconomia 2024, Vol. 58, no.3, s. 51-68
6. Niemczyk A., Zarządzanie magazynem, Wydawnictwo WSL, Poznań, 2010.
7. Richards G., Warehouse management: A complete guide to improving efficiency and minimizing costs in the modern warehouse, Kogan Page Publishers, London, 2017.
8. Sławińska M., Pawlewski P., Kudelska I., Kańduła D., Occupational Risk Management for a Sustanable Workplace Using Simulation, Annales Universitatis Mariae Curie-Skłodowska, Sectio H, Oeconomia 2024, Vol. 58, no. 4, 187-203.
9. Smith J.D., The warehouse management handbook, Tompkins Press, Nottingham, 1998.
10. Ten Hompel M., Schmidt T., Warehouse management, Berlin HeidelbergEmmett, Springer, 2008.

supplementary literature:
1. Bottani E., Montanari R., Rinaldi M., Vignali G., Intelligent algorithms for warehouse management [in:] Intelligent Techniques in Engineering Management, Springer, 2015.
2. Cham van den Berg J.P., Highly competitive warehouse management, Booksurge, USA, 2012.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	20	1,00