COURSE DESCRIPTION CARD - SYLLABUS

Course name

Design of logistics processes

Course

Field of study

Logistics

Year/Semester

3/6

Area of study (specialization)

Profile of study

general academic

Level of study

First-cycle studies

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

Number of hours

Lecture

Laboratory classes

15

Other (e.g. online)

Tutorials

Projects/seminars

15

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

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Faculty Engineering Management

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Responsible for the course/lecturer:

Prerequisites

The student has extensive knowledge of the use of logistics processes in the design of enterprise integration methods, simulation technologies, methods of streamlining and improving processes, has knowledge of available simulation packages, knows the concepts of process verification using simulation experiments, has knowledge of methods and techniques of process improvement.

Course objective

Acquiring skills and competences in designing an enterprise's logistics system, understanding the basic methods used in designing logistics systems, designing and managing economic processes.

Course-related learning outcomes

Knowledge

1. knows the relationships governing the design of logistics systems and processes[P6S_WG_05]

2.knows the issues of process mapping, process orientation in logistics and process simulation used in the design of logistics systems and processes [P6S_WG_08]

3. knows extended issues related to the life cycle of logistics systems and processes and the life cycle of industrial products[P6S_WK_04]

4.knows detailed methods, tools and techniques specific to the design of logistics systems and processes [P6S_WK_05]

5. knows phenomena and contemporary trends characteristic of the design of logistics systems and processes, including industry 4.0 and artificial intelligence [P6S_WK_07]

Skills

1. is able to collect, based on the literature on the subject and other sources (in Polish and English), and present in an orderly manner information regarding the design of logistics systems and processes, also at the supply chain level [P6S_UW_01]

2. is able to communicate using appropriately selected means in a professional environment and in other environments as part of the design of logistics systems and processes, also at the supply chain level[P6S_UW_03]

3. is able to critically analyze the technical solutions used in the analyzed logistics system (in particular in relation to devices, facilities and processes) [P6S_UW_07]

4. is able to design, using Industry 4.0 methods and techniques, an object, system and logistics process as well as processes related to them, along with determining the path of its implementation and implementation, potential threats or limitations in this respect [P6S_UK_01]

5. is able to identify changes in requirements, standards, regulations, technical progress and labor market reality, and on their basis determine the needs to supplement own and other knowledge [P6S_UU_01]

Social competences

1. Student is aware of the recognition of the importance of knowledge in the field of logistics and supply chain management in solving cognitive and practical problems [P6S_KK_02]

2. Student is able to plan and manage in an entrepreneurial manner [P6S_KO_01]

3. Student is aware of the responsible fulfillment, correct identification and resolution of dilemmas related to the logistics profession [P6S_KR_01]

4. Student is aware of cooperation and work in a group on solving problems within logistics and supply chain management [P6S_KR_02]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Project: Formative assessment: partial acceptance of the project in the enterprise - a written report containing the project schedule and current work progress. Summative assessment: evaluation of the final report, evaluation of the simulation project documentation, evaluation of the simulation model and conducted simulation experiments. Pass threshold of 50% of points.

Laboratory:

Programme content

Project: Process approach. Models and standardization of processes. Process mapping. Process design and implementation of changes. Methods and techniques of process improvement. Process modeling, Process management. The essence and goals of process management. Process design methodology using computer simulation. The use of industry 4.0 techniques and technologies in the design of logistics processes. Methods of designing and improving logistics processes using digital twin technology.Laboratory: Methods of simulation modeling of the process. Methodology of redesigning logistics processes. Simulation methods.

Teaching methods

Project: design method.

Laboratory: labotratory method.

Remote learning methods indicated on the ekursy.put.poznan.pl platform.

Bibliography

Basic

1. Waters. D., Logistics An Introduction to Supply Chain Management, Palgrave Macmillan, 2003.

2. Pacholski L., Cempel W., Pawlewski P., Reengineering, Reformowanie procesów biznesowych w przedsiębiorstwie, WPP, Poznań, 2009.

3. Nowosielski S. (red.), Procesy i projekty logistyczne, Wydawnictwo UE, Wrocław, 2008.

4. Pawlewski P., Projektowanie systemów i procesów logistycznych, WPP, Poznań, 2013.

5. Beaverstock M., Greenwood A., Lavery E., Nordgren W., Applied Simulation, Flexsim Software Products, 2011.

Additional

1. Bozarth C., Handfield R.B., Wprowadzenie do zarządzania operacjami i łańcuchem dostaw, Helion, Gliwice, 2007.

2. Pawlewski P., Symulacja wsparciem dla Lean, Kaizen (37), nr 2, kwiecień-maj 2019, pp. 32-37.

3. Pawlewski P., 7 rzeczy dla milk-run, Kaizen (38), nr 3, czerwiec-lipiec 2019, pp. 43-47.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, project preparation) [1]	20	1,0

[1] delete or add other activities as appropriate