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
Designing logistics processes

Course

Field of study	Year/Semester
Logistics	3/5
Area of study (specialization)	Profile of study
	general academic
Level of study	Course offered in
First-cycle studies	Polish
Form of study	Requirements
part-time	compulsory

Number of hours

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

Number of credit points

4

Lecturers

Responsible for the course/lecturer:

Ph.D., D.Sc., Eng. Paweł Pawlewski, University Professor

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Faculty of Engineering Managment

ul. J. Rychlewskiego 2, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

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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]

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Social competences

1. The student is aware of the importance of knowledge in the design of logistics processes and their management in solving cognitive and practical problems [P6S_KK_02]

2. The student is able to design, plan and manage in an entrepreneurial way [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:

Lecture: Formative assessment: case study concerning the construction of a model (map) of the process flow - evaluation of the report from the case study. Summative assessment: written exam in the form of open and closed questions, checking the knowledge obtained during the lecture, - pass 50% of points.

Laboratory: Formative assessment: assessment of the ability to build a simulation model of the logistics process based on the model and report. Summative assessment: evaluation of the model and the report, pass 50% of points.

Programme content

Lecture: Functional and process orientation in company management. Process approach. Definition and generic classification of processes. Models and standardization of processes. Process mapping. Process design and implementation of changes. Methods and techniques for improving processes. 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: Rules for using simulation software dedicated to logistics, basic models of an assembly station, quality control, use of a logistics navigator.

Teaching methods

Lecture: informative lecture.

Laboratory: laboratory method.

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.

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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, s. 32-37.

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

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,0
Classes requiring direct contact with the teacher	47	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	53	2,0

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[1] delete or add other activities as appropriate