COURSE DESCRIPTION CARD - SYLLABUS

Course name

Organization of Production and Logistics in Automotive Industry

Course

Field of study

Logistics

Area of study (specialization)

Corporate Logistics

Level of study

Second-cycle studies

Form of study

part-time

Year/Semester

1/1

Profile of study

general academic

Course offered in

Polish

Requirements

elective

Number of hours

Lecture

14

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

14

Number of credit points

5

Lecturers

Responsible for the course/lecturer:

Ph.D., D.Sc., Paulina Golińska Dawson

Mail to: paulina.golinska@put.poznan.pl

Phone: 61 665 34 14

Faculty of Engineering Management

ul. J. Rychlewskiego 2, 60-965 Poznań

Responsible for the course/lecturer:

Ph.D., Monika Kosacka-Olejnik

Mail to: monika.kosacka@put.poznan.pl

Phone: 61 665 34 14

Faculty of Engineering Management

ul. J. Rychlewskiego 2, 60-965 Poznań

Prerequisites

The student starting this subject should have a knowledge of the fundamentals of production

organization and logistics. He/she should also be able to obtain information from specified sources and be willing to cooperate as part of a team.

Course objective

To teach students the principles of organization of production and logistics in the automotive industry. Students learn also practical solutions used in this area

Course-related learning outcomes

Knowledge

1. Student knows the dependencies governing the production process and their relationship with logistics in the automotive industry [P7S_WG_01]

2. Student knows issues in the field of production engineering and its connections with the organization of production and logistics in the automotive industry [P7S_WG_02]

3. Student knows issues in the field of process mapping, process orientation in logistics and simulation of processes occurring within production and logistics in the automotive industry [P7S_WG_03]

4. Student knows the detailed methods, tools and techniques specific to the organization of production and logistics in the automotive industry [P7S_WK_01].

5.Student knows the extended concepts for logistics and its detailed problems and supply chain management and supply chain management in the automotive industry [P7S_WG_05]

Skills

1. Student can design, using appropriately selected means, a process of analysis or a scientific study solving a problem within the framework of problem within the organization of production and logistics in the automotive industry [P7S_UK_01]

2. The student can collect on the basis of the literature of the subject and other sources (in Polish and English) and in an orderly manner, provide information on the problem within the framework of the organization of production and logistics in the automotive industry [P7S_UW_01]

3. The student is able to communicate using properly selected means in the professional environment and in other environments as part of the organization of production and logistics in the automotive industry [P7S_UW_02]

4. Student formulate and solve tasks through interdisciplinary integration of knowledge from different fields and disciplines used to design logistics systems in the automotive industry [P7S_UO_01]

5. Student makes a critical analysis of technical solutions used in the analyzed logistics system in production and logistics in the automotive industry (in particular with regard to devices, objects and processes) [P7S_UW_04].

6. Student is able to assess the usefulness and the possibility of using new achievements (techniques and technologies) in the organization of production and logistics in the automotive industry [P7S_UW_06]

7. Student is able to identify changes in requirements, standards, regulations, technical progress and the reality of the labor market, and on their basis determine the needs of supplementing own and other knowledge in the field of production and logistics organization in the automotive industry [P7S_UU_01]

Social competences

1. The student is aware of the responsibility for own work and readiness to comply with the rules of working in a team and taking responsibility for the tasks carried out jointly [P7S_KR_01]

2. The student is able recognize causal relationships in achieving the set goals and grading the significance of alternative or competitive tasks [P7S_KK_01]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Final test during the last class. The test consists of open and closed questions with different scores. The maximum number of points to be obtained during the test is 60 points. Tests (quizzes) summarizing the topic covered in a given lecture, with different scores. The tests consist of open and closed questions. The maximum number of points to be obtained in class tests is 40 points. The passing treshold is 51% points.

Project: Partial assessments of the progress of the project stages, defense of the project. The passing treshold is 51% points.

Programme content

Lecture: The automotive industry in Poland and in the world. History of automotive inudstry development and current trends. A car as an industrial product (components, applied production technologies). Car design processes. Car production process (assembly systems, organization of the assembly line) and organization of the car manufacturing plant. The process of planning and controlling production in a car manufacturing plant. Organization of deliveries to an automotive industry enterprise (JIT, JIS). Organization of the recycling of used cars and their components. Application of circular economy trends in the automotive industry. Modern solutions in the automotive industry related to the implementation of the Industry 4.0 concept.

Project: Students describe the vehicle production process, map material flows in a car manufacturing company, plan and control production, identify Industry 4.0 solutions in the automotive industry, develop detailed reverse logistics solutions, identify waste in various phases of product life, define indicators for measuring the pro-ecological activity of an enterprise from the automotive industry, develop the principles of material supply with component components.

Teaching methods

Lecture: conventional specialist lecture (with a multimedia presentation), problem lecture, case study method, work with a book.

Project: project method, case study method, brainstorming.

Bibliography

Basic

1. Golinska P., Fertsch M. Organizacja produkcji i logistyki w przemyśle samochodowym, wyd. PP 2012.

2. Rohatyński R., Remanufacturing ? istota-znaczenie- realizacja [w:] Fertsch M.(red.), Elementy inżynierii Logistycznej, Wydawnictwo Instytutu Logistyki i Magazynowania, Poznań 2017.

3. Fertsch M., Metoda planowania zapotrzebowania materiałowego w planowaniu produkcji i sterowaniu jej przebiegiem, Wydawnictwo Politechniki Poznańskiej, Poznan, 2013.

Additional

1. Golinska, P. (Ed.). Environmental issues in automotive industry. Springer Science & Business Media, 2013.

2. Hall R.W., Zero Inventories, Dow Jones Irving, Homewood, Illinois, 1983

3. Monden Y., Toyota Production System, Industrial Engineering and Management Press, Norcross, USA, 1983.

4. Golinska-Dawson P., Kübler F. (Eds.), Sustainability in Remanufacturing Operations, Springer, 2017.

5. Kosacka M., Werner-Lewandowska K. Perspektywy rozwoju sieci recyklingu Pojazdów Wycofanych z Eksploatacji (PWE) w Polsce, Gospodarka Materiałowa i Logistyka, 2017.

6. Kosacka-Olejnik, M. (2019). How manage waste from End-of-Life Vehicles?-method proposal. IFAC-PapersOnLine, 52(13), 1733-1737.

7. Pałucha K., Proces realizacji zamówień klienta w przemyśle samochodowym. Zeszyty Naukowe. Organizacja i Zarządzanie/Politechnika Śląska, 120/2018, s. 153-162.

8. Janczewski J., Wybrane problemy logistyki zwrotnej w branży usług motoryzacyjnych, ZIwGiB, 1(14), 2012, s. 131-142.

Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	28	1,0
Student's own work (literature studies, preparation for project, preparation for classes, project preparation) [1]	97	4,0

[1] delete or add other activities as appropriate